DOCUMENT RESUME

ED 057 258 AA 000 751

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TITLE The Student in Graduate School.
INSTITUTION ERIC Clearinghouse on Higher Education, Washington, D.C.
PUB DATE Jan 72
NOTE 75p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Doctoral Programs; *Graduate Students; *Graduate Study; *Higher Education; *Professional Education

ABSTRACT

This report examines the literature on the graduate student seeking the Ph.D. in the arts and sciences, the claims made about graduate student status, and research supporting or negating such claims. Major findings show that: (1) graduate students are concentrated in prestigious universities and most graduate students receive their undergraduate training at universities rather than colleges; (2) special groups such as teaching assistants, part-time students, and women generally have unique problems that are essentially ignored; (3) students are disturbed by many of the components of graduate education, specifically language examination requirements; (4) general requirements are a source of complaint; (5) the dissertation and research phases of doctoral study are seemingly lacking in the proper guidance needed for a student to conduct his own research in his own fashion without being threatened; (6) doctoral study is excessively long; (7) students in the sciences seem more pleased with their programs than those in the arts or social sciences because more adequate funding is available for science programs; and (8) although graduate students are not nearly as destitute as many imagine, financial aid should be more equally distributed among the disciplines. (HS)

ED 057 258

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James Harvey

Prepared by
the ERIC Clearinghouse
on Higher Education

Published by
the American Association
for Higher Education

January
1972

AA 000 751

The printing and distribution of this report to all members of the American Association for Higher Education has been made possible through the cooperation of the Educational Testing Service and the College Entrance Examination Board.

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January 1972

Foreword

Although great concern has been shown during the sixties for graduate education in the United States, much of the published literature has dealt with manpower needs, or anecdotal criticisms of doctoral education. Much of the criticism has centered on the position of the graduate student. Since several major studies on graduate students have been published recently, the ERIC Clearinghouse on Higher Education felt it appropriate to assess the major criticisms in light of the research findings.

This report was prepared by James Harvey, Research Associate at the Clearinghouse. The author wishes to express his appreciation to Dr. John A. Creager, Office of Research, The American Council on Education, for reviewing the manuscript, and to William Mayville of the Clearinghouse staff for editorial assistance.

This is the first in a new series of Clearinghouse reports to be published by the American Association for Higher Education (AAHE). In addition to the report series, the Clearinghouse also prepares brief reviews on topical problems in higher education that are distributed by AAHE as *Research Currents*.

Carl J. Lange, Director
ERIC Clearinghouse on Higher Education
January, 1972

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1 Introduction

The graduate student is one of the stock tragic figures in the literature on higher education. Many writers assume that graduate students are exploited, anxious, preoccupied with trivialities, and live in poverty. Altbach (1970), for example, summarizes the following negative aspects of graduate student status:

> • Graduate students are adults in every sense of the term but are often treated as children by their universities.
>
> • Graduate students are often woefully exploited by individual professors, departments or universities, by way of inadequate remuneration. . .work loads which almost preclude. . .academic work, or occasional plagiarism by senior professors. . . .
>
> • Graduate students are subject to arbitrary treatment by professors, departments or institutions, and have few means of resisting such treatment.
>
> • Graduate students are often almost totally dependent on their professors or departments for a livelihood, for certification as a scholar, and possibly for a future academic position.
>
> • The role of a graduate student. . .with a senior professor is often ambivalent.

Much of the literature on the conditions of graduate student life is polemical, based more on opinion than documented evidence, and generally few substantive suggestions for appropriate change are offered. Within the last 10 to 15 years there has been an attempt to support these opinions with research evidence—usually in the form of questionnaires to students, faculty members, and recipients of graduate degrees.

This report examines the literature on the graduate student seeking the Ph.D. in the arts and sciences, the claims made about

graduate student status, and research supporting or negating such claims.

Major Research Sources

The research available on graduate education can be divided into three broad categories: general findings covering many areas of graduate education, time requirements for doctoral degrees, and the financial status of graduate students.

General results have been reported by Berelson (1960) who analyzed questionnaire responses from 600 college presidents, 79 graduate deans, over 1,800 faculty members, over 2,000 recent Ph.D. recipients, and 70 employers. Berelson also interviewed small samples of each of these groups.

Heiss (1967) mailed a questionnaire to all doctoral students enrolled at Berkeley between 1963-64 in an attempt to test Berelson's conclusions about degree components and to examine the worth of discussions between herself and various groups on the campus. Of 3,165 questionnaires mailed, 2,251 were returned. In 1970 a broader survey was reported by Heiss, i.e., in 10 universities 2,308 faculty members (1,610 respondents) and 4,806 graduate students (3,487 respondents) were surveyed.

Alciatore and Eckert (1968) report general findings based on a survey of 1,700 Ph.D. recipients at the University of Minnesota. Allen (1968) provides an extensive survey of Ph. D. programs in English. He mailed questionnaires to recent recipients, department chairmen, and graduate teachers of English, receiving 1.903 responses from recipients, 1,170 from graduate faculty, and 88 from department chairmen. A similar study was undertaken by a committee of the American Political Science Association (Bennet, et al., 1969), which gathered data from graduate student essays, departmental surveys of all Ph.D. granting institutions in political science, a survey of 566 student members of the APSA, and visits to 23 institutions. Sharp (1970) also reports on many facets of graduate education, and the report contains much of the data from her 1965 study. In 1958 she surveyed 55,000 bachelor's degree and first-level professional degree recipients and 10,000 master's degree and second-level professional degree recipients from almost 1,300 institutions. A follow-up in 1963 to the 23,000 original respondents resulted in an 83 percent return rate.

Creager (1971) published the results of an extensive survey jointly sponsored by the Carnegie Commission on Higher Education and the American Council on Education. Questionnaires were mailed to over 51,000 graduate students at 158 universities, and 33,119 responses from 153 institutions are presented weighted to represent the universe of graduate students and institutions.

The finances of graduate students have been examined most thoroughly by Davis (1962) and Hunter (1967). The Davis study concerned a survey of over 2,800 graduate students at 25 universities classified by prestige and public/private control. This data was used as the basis for Chapter II on graduate student career preferences for *The Arts and Sciences Graduate Student* (1964a). Related studies from the National Opinion Research Center include *Graduate Student Finances, 1963* by Warkov, Frisbie, and Berger (1965). Hunter's study covered the student's academic and financial status, and he received replies from over 15,710 students at 68 institutions.

The most comprehensive treatment of the length of time required for the doctorate is Wilson's (1965). He analyzed data collected in 1960 from over 1,900 Ph.D. recipients at 20 southern institutions from 1950-58. An earlier summary of the data was prepared by Alexander Heard (1963). Attrition—related to duration of study according to many writers—has been researched by Tucker (1964).

Other areas of interest to researchers in graduate education have included recruitment and admission to graduate school and, to some extent, the position of women as students in graduate departments. Concerning recruitment Gropper and Fitzpatrick (1959) surveyed 3,581 undergraduate seniors, graduate and professional school students at 35 colleges and universities to determine what groups were being recruited and enrolled in post-bachelor's degree education. Davis (1964) surveyed 34,000 undergraduate students at 135 institutions to determine their orientation toward graduate school. Grigg (1965) reported a similar study on the graduating seniors of all southern institutions, including a follow-up of the 6,000 respondents 1 year later to determine whether their plans had been realized. Additional studies based on Davis' 1964 study were a chapter, "The Survivors," for the *Arts and Science Graduate Student* (1963), and Berger's (1967) longitudinal study that included follow-up material on the 1961 class surveyed by Davis.

4/THE STUDENT IN GRADUATE SCHOOL

Research on women in graduate school is so sparse as to be almost nonexistent. Mitchell (1968) reported on "enabling or impeding" factors among Oklahoma's women doctoral recipients in the attainment of the degree. She sent a questionnaire to 208 women who had obtained the doctorate at Oklahoma institutions, of which eighty-five percent replied. The National Institutes of Health (*Special Report. . .*, 1968) published a document on women and graduate study using the National Opinion Research Center data collected from 1961 to 1964.

General Agreement

Since this report will concentrate on the debatable aspects of graduate student life, it is useful here to outline some of the areas in which researchers find themselves in agreement concerning graduate students. The students are likely to come from undergraduate programs in universities (Berelson) not only because of the large numbers of undergraduate degree holders the universities produce, but also because of the universities' ability to interest and hold their own undergraduates for graduate work (Beach, in Walters (ed.), 1965). Moreover, many university trained undergraduates (especially in science) may be better graduate students, although the "intellectual calibre of a student body is a far stronger predictor of success in graduate school. . .than institutional type." (Spaeth, 1966)

Graduate students are liable to be concentrated in graduate programs in the largest, most prestigious universities (Davis, 1962). Twenty-five percent of Davis' students were enrolled in the 5 largest graduate schools; 85 percent were enrolled in approximately half of the schools offering the doctorate. Davis attributed this to the larger schools offering the Ph.D. in subspecialities as well as in traditional areas of study. Creager found that slightly over 60 percent of his respondents came from undergraduate programs in Ph.D. granting institutions, and that one-fifth of them had received their undergraduate degree from the graduate institution they were attending.

Although there is some concern that the student's socioeconomic status may affect his ability to enroll in graduate programs, graduate students come from a wide variety of economic backgrounds, and the consensus is that socioeconomic status plays little role in admission to graduate programs (Davis, 1962; Berelson, 1960; Hunter, 1967; Creager, 1971).

Surprisingly, in view of the polemical nature of much of the literature on graduate education, if graduate students or recipients are asked a "broad" question as to satisfaction with their education or the institution the answers are overwhelmingly positive. Unfortunately, many of the research findings used to defend the status quo in graduate education actually report on the satisfactions of degree recipients. It is possible, even likely, that recipients, as successful ex-students, will be more satisfied than current graduate students concerned with failure.

Eighty-eight percent of Berelson's recent recipients were satisfied with graduate education. Davis (1962) noting that graduate education is generally assumed to be a "period of tension and anxiety" states that his data do not bear this out, since most students were satisfied with their choice of schools. Generally less than 10 percent of responding students or recipients express dissatisfaction with their choice of institutions (Davis, 1962; Heiss, 1967; Alciatore and Eckert; Creager). The APSA report (Bennett, et al.) revealed the lowest rate of satisfaction with graduate education: just over one-half of the students were satisfied, three out of 10 were dissatisfied, and one-tenth could not decide.

Overall satisfaction, however, does not imply uncritical acceptance of all areas of graduate study. Davis (1962) noted that over 90 percent of his respondents checked at least one complaint about graduate education and over 50 percent checked four or more complaints as at least somewhat valid. Spaeth (1963) found graduate students in all disciplines complained about such problems as overspecialization; the necessity to conform; the irrelevance of the program to future employment; and not only the lack of training for teaching, but the lack of adequate training for research. Berelson, Alciatore and Eckert, and Heiss (1967) found students favoring less structured programs of study in place of required courses.

It may be that an insight reached by Bennett and his colleagues explains the student's willingness to accept graduate education on the whole, while complaining about its components. Many students were concerned with the passivity and complacency of fellow students who "just stumble along not seeing the system as a whole, accepting instead the limits against innovation...." Findings indicate that while academic and intellectual reasons motivate students to enroll in graduate programs, substantial numbers of them are also motivated by the practical need to obtain a Ph.D. as a job credential or to enter a more prestigious position. With that

motivation, the acceptance of the vagaries of doctoral study as a "necessary evil" could be anticipated, and the desire to finish the degree might increase frustration as hurdles are encountered.

In this review, the disciplinary differences in graduate student responses will be largely ignored. However, the literature and research findings consistently indicate that students in the biological and physical sciences are more satisfied with their programs than are students in the humanities and social sciences. Science students receive more financial support; their research programs appear more relevant to their future careers; their course work is applicable to their research; and their dissertations are better focused, shorter, and frequently take less time. All of these factors contribute to the relatively short time science students take in finishing their degrees compared to students in the "word disciplines." In brief, the complaints about graduate education might best be considered seriously by faculties in the departments of humanities and social science, since the discontent in these disciplines is generally greater than the average.

2 Ambiguity of Graduate Student Role

Comments on Student Position

One of the most lamented characteristics of graduate student life is, to use Altbach's term, the "ambiguity" that surrounds the student in his relationship to society as a whole, to his faculty, and to his peers. It is maintained that the graduate student must continually oscillate between the deference required in graduate school and the aggressiveness required in the outside world; that he is torn between relating to faculty members on a professional basis and the continual pressure over the need to please them; and that collegial relationships with other students are undermined by the necessity to compete with them.

Altbach claims that the students' position vis-à-vis society is "difficult, perhaps unnatural," since many students are of middle-class origin or better and view the world through the eyes of the middle class, but have neither middle-class financial resources nor the accompanying responsibilities. Spurr (in Eshelman (ed.), 1965) agrees, noting that the graduate student:

> . . . is part of the community in which he lives, and yet *not* a part of it. He may have a home and send his children to the local school, but not be permitted to vote. He may have been employed locally for years but still pay nonresident tuition. . . . The commuting student exchanges his role as leader in his hometown community for that of a nameless face in a Saturday morning or an evening class at the university.

If anything, the student's position within the university is even more ambiguous. Sanford Elberg (in Eshelman (ed.), 1965) claims that the graduate student occupies a no-man's land between

high-status professors and high-status undergraduates—both of these categories being regarded very highly outside the university community. The graduate student, according to Elberg, views the undergraduate as exploring new and interesting vistas of knowledge, and the professors as in the process of gaining professional recognition, "while he strives to master. . .Latin."

Graduate student relations with faculty members have received particularly critical scrutiny. Altbach feels that the continual evaluative process in graduate education destroys any desirable collegiality with faculty members. Bryan (in Eshelman (ed.), 1965) agrees and suggests the anomalous situation, whereby:

> . . . in the late afternoon the graduate student may argue against his major professor's notions about how to teach the freshman or sophomore course that he has been assigned; later that evening in his professor's seminar he may be found squirming slightly at his professor's critique of a paper he has just read.

In fact, it seems to be taken for granted by commentators that the stress of evaluation penalizes "risk-taking and aggressiveness," with the result that much student-faculty interaction is inhibited (Lane, 1971). Even when the student has confidence both in the integrity of his professors and the judgmental criteria they use, Altbach maintains, "it is still with a feeling of great anxiety that [the student] enters into academic relationships." Added to the problem of evaluation, in Bryan's view, is the knowledge that many professors are crucial in locating eventual employment for the student:

> . . . a fact that some professors unfortunately choose to dwell upon as the relationship enters its crucial stage, the writing of the doctoral dissertation—and it is small wonder that, according to some psychologists, there has arisen on college campuses. . . a kind of behavior classified as "the graduate-student anxiety syndrome."

Loewenberg (1969) sets the whole relationship in a Freudian perspective, claiming that the faculty-student relationship is one of "domination and submission":

> The professor combines the transference authority of the father with the actual power and institutional authority of a director of graduate studies. The student is in the almost totally impotent position of dependent child. For any student who has been an independent adult on his own, a return to graduate school most certainly represents an emotional regression. . . . There may well

> be students whose egos are so strong and adaptable that they are impervious to the traumas of a graduate education. With these. . . .we need not be concerned. We must be concerned with the high degree of demoralization and attrition among many of our most competent graduate students.

Moreover, says Loewenberg, graduate students and professors want more from their relationship than teaching and learning; they both desire what people "want in any relationship: approval, acceptance, praise." Consequently, the "autonomous" student will encounter difficulties in graduate school, since the faculty "will fight for the student who is compliant and against the student who threatens them. The student quickly realizes that if he submits and convinces those in authority of his powers of compliance, he will receive a degree. . . ."

Whether this framework adequately explains the problems between students and professors or not, there is considerable debate over the influence of individual professors on students. Woodring (1968) claimed that individual professors can hold students "in vassalage for six, eight, or ten years while they assist professors with their research, [and] write and rewrite their own dissertations." Moreover, the dissertation director can dictate the student's choice of subject, and Berelson (1960) asserts that contract research funds have exacerbated the tendency to produce dissertations "to order" simply to comply with the requirements of a sponsoring agency.

Others interested in the relationships between the student and the faculty member are more optimistic. Scaff (1968) claims that departmental and committee requirements can restrain "the possible capriciousness of an individual professor." Bryan, although voicing the reservations noted above, feels that meaningful relationships between students and faculty members are possible somewhere on the continuum between the totally disinterested graduate professor and the overdemanding one.

Student-student relationships are another area of concern. Committee members investigating graduate education at Harvard (*Report of the Committee. . .*, 1969) were told repeatedly that, "some students. . .would not discuss substantive or methodological questions of interest with their friends for fear that their friends might steal their ideas." Others are more ambivalent about student-student relations. Noting that experienced graduate students can be very helpful to the novice, Loewenberg believes students competing on the same level definitely vie for the attention of their professors.

Overall, graduate student critics claim that student morale is low as a result of these factors and others. The Harvard report cites student morale as one of the most pressing problems in the graduate school:

> A distressingly large number of graduate students find their experience at Harvard disappointing. . . . The theme of belittlement, isolation, and neglect ran contrapuntally through the chorus of complaints. Entering the Graduate School as an elite selected from long lists of applicants, the students seemed to feel that the actual reception meant that nobody really cared for them or their opinions. It is as if they had wandered into a society of competitive, specialized scholars who might perhaps train them to run the academic race but who refused to meet them on the ground of what is meaningful and relevant in their own lives.

The doubts expressed by observers of graduate education are not restricted to frustrated graduate students or junior faculty members. Even national leaders in graduate education such as Gustav Arlt (*Proceedings. . .*, 1969) have expressed their concern over the psychological effects of keeping some of society's most able people, "out of productive participation until the age of thirty to thirty-five. . . . With every year that passes they become more fixed in their state of dependence and less flexible as potential members of an independent, productive society."

Research on Student Position

Research results on the position of the graduate student vis-à-vis his faculty, peers, and society support some of the charges and refute others. Unfortunately, many of the studies only sampled successful students—those who already had the Ph.D.—and asked them to recollect their experiences in graduate school; the results, therefore, should not be taken as conclusive. Most of the researchers made no attempt to contact Ph.D. dropouts. Invariably most commentators mention that some of the best students drop out of graduate programs because of some aspect of their program that to them is intolerable.

No results are available on the supposed ambivalence the graduate student feels when leaving a responsible position in society to enter a graduate classroom. However, Altbach's claim that graduate students are basically from the middle classes or better and yet are forced to live in poverty can be denied to the

extent that many studies indicate graduate school is seen by the students as an important stepping stone to their future financial mobility (Berelson, 1960; Hunter, 1965; Davis, 1962). Others, however, (Grigg, 1965; Wegner, 1968; and Spaeth, 1968) have concluded that socioeconomic status is related to aspiration and enrollment in graduate study.

Student-student relationships have been investigated. Creager found three-quarters of his Ph.D. students responding that their personal relationships with other graduate students were excellent or good. In fact, older students appear to act as mentors for beginning graduate students by advising them of obstacles ahead and the means to surmount them (Heiss, 1970). The resulting relationships between students within the same class is not as clear. Gregg (1971), in surveying 589 graduate students, found that competitiveness in student relationships was a consistently negative factor in both academic and nonacademic satisfactions. However, Clark (1969) states that the encouragement of competition in one major assignment, such as a term paper, resulted in better student performance in other assignments, such as the final examination. However, the study was small (two psychology classes) and the teacher's attitude in the experimental class may have encouraged grade-seeking in the experimental class; furthermore, improved academic performance did not necessarily improve student relationships.

Heiss (1967) concluded that graduate students to some extent serve as "pacemakers" for each other and this aspect of student relationships threatens some students and challenges others. Over 40 percent of the Berkeley students surveyed believed that most graduate school students were competitive grade-seekers, and many noted "competition for grades was often excessive and had the effect of emphasizing fact-gathering more than reasoning ability." The need for high grades to win coveted awards was the justification used by some students. Large percentages of students claimed that competition caused good students to leave graduate school:

> One result of this competitive pressure was seen in the data that showed that 47 percent of the social science respondents, 46 percent in the humanities, 39 percent in the professional schools, 31 percent in the biological sciences, and 27 percent in the physical sciences reported that some of the best students dropped out of the program voluntarily.

> Although the majority of the interviewees accepted competition among graduate students. . .many mentioned that they personally knew students more intelligent than themselves who had failed.

In her 1970 study, *Challenges to Graduate Schools*, Heiss also found graduate student sympathy with dropouts. Thirteen percent agreed that many students dropped out because they did not like the competition (30 percent indicated that they were uncertain). Twenty percent agreed that some of the best students dropped out because they found the requirements too constraining (23 percent said they were uncertain).

It may appear surprising, therefore, that graduate students indicate some "positive, scholarly interaction" does take place among students (Heiss, 1967). This was particularly true in the biological and physical sciences. In 1967 Heiss found 43 percent in the physical and biological sciences agreeing that an "intellectual *esprit de corps*" existed among students in their major. Humanities students were found to agree to this one-third of the time. In 1970, she found 56 percent of all graduate students agreed on this point.

Heiss attributed the divisional differences in the 1967 study to the fact that in the experimental fields students worked on group projects, whereas in those fields where "research was of a documentary nature," the students normally worked alone and rarely had the opportunity to interact with other students.

Data on student-faculty relationships collected from actual doctoral students as opposed to doctoral recipients are available and provide little comfort for defenders of the status quo in graduate education. Heiss (1970) found that 21 percent of graduate students rated the faculty's knowledge of the student's academic progress as low; 39 percent thought the faculty's interest in the student as a potential teacher was low. Better than one out of 10 of the students also criticized the faculty's helpfulness and support, accessibility, interest in students, constructive criticism, respect of divergent viewpoints, knowledge of student's ability, interest in student's research, and respect for the student as a developing scholar.

On a related question, Creager found that two-thirds of his Ph.D. respondents rated the availability of faculty to graduate students as good or excellent. One-fifth rated faculty availability as fair, and over 10 percent characterized it as poor. However, only one-third reported informal contact with professors once a

month or more; over 50 percent reported that professors were not available for personal advice, and almost 40 percent believed that the professor with whom they had most contact regarded them as merely "students."

Bennett (1969) concluded that anxiety was a dominant feature of graduate student life, and that "students report such feelings as deference, obsequiousness, and fear toward the faculty." Moreover:

> Under the present authoritarian system, and with no means of redress, the student is at the mercy of the instructor. . . . Only occasionally is an instructor sufficiently secure within himself to accept dissent or initiative without imposing a crippling penalty.

Heiss found some students in all areas disagreeing about whether doctoral programs favored the bright, imaginative student—ranging from 11 percent in mathematics to slightly over 30 percent in economics. Even more students in all areas agreed that programs favored "conscientious plodders." The majority of Creager's respondents agreed that their departmental graduate program favored the "bright imaginative student" but 37 percent of them disagreed with this statement.

To cope with the problems of dealing with faculty according to Bennet, et al. (1969), students became masters in "gamesmanship" and "academic manipulation." "Psyching out" or "impressing" professors became an end in itself. Heiss (1967) also found this phenomenon at Berkeley:

> If one considers the ingenuity entailed in this psyching-out process (which the interviewees described with delight and unabashed pride), one is forced to wonder whether this creativity and concentrated effort might not have been channeled into more intellectually challenging experiences to say nothing of more elevated motives!

A substantially different finding is reported by Alciatore and Eckert (1968) in their study of Ph.D. recipients at the University of Minnesota. Over 90 percent of the students who received the Ph.D. at Minnesota between 1954 and 1956 thought "they had had outstanding graduate school teachers." Several reasons might explain the apparent anomaly with Bennet's findings and Heiss's results. It is possible that Bennet's APSA students may have overstated their anxiety to the study committee—particularly those who voluntarily submitted statements in response to the

committee request; or the resentment apparent in the students in political science may have dulled several years after receiving the degree due to time and the recipient's own experiences as a faculty member. Moreover, the general nature of Alciatore and Eckert's question and the fact that it was asked of doctoral recipients, as opposed to students worried about getting through their programs, may have biased the results.

Students do apparently have some idea of the kinds of relationships they wish to have with professors. Bryan's study of 30 graduate students at the University of Florida indicated that some line of demarcation was desired by the students between the faculty and themselves: "one is a teacher, the other is a learner."

> Indeed, many of these students expressed some degree of contempt for the professor who would become a "buddy" or a "pal" to his students. Thus, while worried about such technical details as degree requirements and the length of the dissertation, these students had already begun to become professionals and to demand professional treatment in the area of human relationships.

The major advisor, the individual guiding the student through the doctoral program, is particularly important to the graduate student, and Heiss (1967) indicates that the student expects professional respect from the advisor also:

> Essentially, they expected him to be a critic but a constructive counselor, a relentless taskmaster but a supportive colleague, a model of scholarship but an understanding tutor.... As a group, respondents were critical of the major professor who dictated rather than directed. Students...wanted advisers to be not only knowledgeable about the degree process but also personally aware of the student and his needs.

Over 80 percent of the students in this study indicated that the ideal major advisor not only informed students of hurdles they would encounter in graduate education but also briefed them "on the strategy by which the hurdles could be vaulted successfully." Some few students felt their advisor was too remote from them; however, on the average approximately 70 percent "rated the accessibility of their major professors as excellent or high...."

The choice and adaptation to a sponsor does seem to be an anxious time for graduate students (Bryan, 1965; Heiss, 1967). Large numbers in every division at Berkeley reported to Heiss that they did not have a research sponsor. "Shopping around for a

sponsor was frequent, and several interviewees reported they had been turned down by the man with whom they had come to study."

Some of Bryan's students reported choosing sponsors for less than ideal motives: to study with a great man; to ensure employment after receiving a degree. Some of these students found themselves working on uninteresting topics. "Others choose a subject or a project, not a man, and many find themselves indifferently guided. . . . But whatever the choice, all students realize the need to address themselves to the immediate task of learning the professor's biases and adjusting to them." Allen (1968) also commented on the somewhat calculating manner in which students may choose dissertation directors and their subsequent adjustment to the director's scholarly quirks. He noted that generally recent recipients of the Ph.D. in English and American literature felt they had been helped "as much as could be expected," but that some problems were evident in arbitrariness on the part of the director or the director's failure to keep up-to-date in his field.

As far as overall student morale is concerned, we have noted that students and degree recipients express relative satisfaction with graduate education. Asked more personal questions, a great majority have also indicated they are in pretty good spirits (Davis, 1962). However, a small percentage of the graduate student population appears to be miserable. Five percent of the respondents told Davis (1962) that they had "a bad or rotten time" in graduate school. Even having obtained the degree, some doubt that it was worth the torment: Allen found that almost 6 percent of the 1955-65 doctoral recipients did not feel their doctoral studies were worth the expenditure in time and effort; another 4.5 percent were not sure; and even some of the satisfied 90 percent qualified their reply.

Creager found over 6 percent of his respondents agreeing that they would be happier if they had not entered graduate school. Heiss (1967, 1970a) reported that graduate students lost self-confidence while in graduate school. The departmental figures published by Heiss (1970a) indicate that over 20 percent of the students in 9 of the 12 departmental categories said their self-confidence had decreased. Similarly, half of the 12 categories showed over 15 percent of the students experiencing a decrease in their sense of autonomy during their doctoral education. Heiss (1967) concluded that prolonged student status was the cause.

Davis ("The Survivors," 1964a) hypothesized that the survivors of the educational weeding-out process suffer because:

> The relentless attrition of higher educational selection means that the further one progresses in education (and the higher the quality of the educational institution one enters) the worse one does academically, when academic achievement is defined by students and teachers as relative standing within a particular student body.

The relatively small numbers expressing "unhappiness" are encouraging; however, those expressing the belief that their self-confidence had decreased amount to a significant minority. It could be argued that many expressing such negative feelings are merely blaming the graduate school environment for their own personal inadequacies. On the other hand, it could just as easily be maintained that for a student to agree that he would have been happier without graduate education, or for a Ph.D. to agree that it was not worth the effort, requires exceptional honesty. It could be argued that others who denied these statements may have been avoiding an unpleasant truth with its disturbing implications of wasted time, money, energy, and unsettled family conditions.

Problems of Special Groups

In addition to the criticism associated with the status of the typical graduate student, other special groups within the graduate student population have problems unique to themselves according to the literature. Criticisms of assistantships, the status of part-time graduate students, and women are especially common.

The teaching assistantship seems generally to be regarded as the poorest of the three major sources of aid (fellowships, research or teaching assistantships). However, even the research assistantship has recently given rise to complaints. Andrews (in Eshelman (ed.), 1965) has noted three common complaints: the research assistantship is a source of cheap labor, forces a team approach to problems, and tends to require too much of the student's time. Due to the relative economy of using graduate students, Andrews feels that they may be employed in routine and elementary tasks which, although necessary, "may adversely affect the overall educational experience of the graduate student. . . ." Moreover, the team approach can blunt the objective of producing "imaginative

Ph.D.'s capable of independent, scholarly work. It is easy for the student to become overly dependent on the skills of others. . . ."

If Berelson's fear that research projects encourage "sure-fire" dissertation projects is correct, then academic freedom may be abridged. Bent has noted (in Walters, (ed.), 1965):

> Academic freedom is usually interpreted in terms of the rights and privileges of professors, but it may well encompass the equally important freedoms of graduate students to choose the areas in which they will study. . . . Obviously, restrictions placed on fellowship programs in these respects constitute a serious loss of freedom.

There is some evidence to support these assertions. Berelson found both faculty and students worried about the consequences of some kinds of sponsored research support. Heiss (1970) found that an average of 28 percent of the respondents in all fields reported that the research assistantship had interfered with their academic progress. The complaint was most common in the humanities and least common in the sciences and mathematics. Once again the "game-playing" phenomenon appears as research assistants advise each other on "the idiosyncrasies of the various project directors who might be in need of assistants." On the other hand, 22 percent of the students reported that they were very satisfied with the research assistantships as they were.

But the problems of the research assistant pale in comparison to the problems of the teaching assistant: the research assistant at least has prestige, generally a higher income, and his work frequently will apply toward his degree. The teaching assistant has none of these. The literature repeatedly notes that the teaching assistant is generally a poorer student than the research assistant, the more attractive research positions going to the better students (*Education at Berkeley,* 1968; Wise (in Lee (ed.), 1967); *Association of Graduate Schools Proceedings,* 1967; Berelson, 1960). The perception that the teaching assistant is an inferior student may be even stronger on campus among peers and faculty members. In 1967, the Committee on Student Aid of the Association of Graduate Schools of the American Association of Universities noted the following problems with teaching assistantships:

> Specifically, it is not difficult to recall decisions (1) to admit inferior applicants just because they are needed to teach a class, (2) to put the inexperienced assistant into the classroom without any supervision or direction, (3) to fix his "half-time" load at 75

> percent, or even 90 percent, of a "full-time" teacher's load, (4) to ask the assistant to teach an extra class for just one more semester. . ., and (5) to allow him to continue as a teaching assistant long after his teaching experience is providing only diminishing returns to himself and to his students. Such decisions are not made invariably, but they are made too frequently, and they are made at many universities.

As if it were not sufficient to attack the teaching assistant's intellectual abilities, as well as demand too much from him, his teaching competency comes under fire also. They are often poor teachers states Martin Trow (*Association of Graduate Schools Proceedings,* 1968). Moreover, as a poorly equipped, badly trained teacher, the teaching assistant is often harried and insecure in his position. The penchant to believe "that anyone who knew anything and was 'any good' could manage a classroom" (Clark, 1969) can have disastrous results for insecure graduate students.

These poor conditions can be intensified by the uneven distribution of teaching loads. Mackertich (1970) points out that while some professors demand weekend after weekend of test-making and grading, others—frequently in the most prestigious courses and seminars—demand very little:

> Very often, too, the heaviest loads were on the shoulders of the least experienced teaching assistants while older, more experienced teaching assistants, many of whom had finished their preliminary examinations, had far less to do. Some of the professors thought this was an excellent method of weeding out those less capable of taking tension and strain and the best preparation for careers as assistant professors.

Available evidence does indicate that the teaching assistant has morale problems. Wise (in Lee (ed.), 1967), noting that many assistants he talked to informally were content with their working conditions, found that, on the whole, morale was low. The assistants felt they were exploited as an answer to increasing undergraduate enrollments, and reported receiving little help on teaching problems or little recognition as junior colleagues. In fact more frequently they felt, "they were treated as individuals of low status employed to do work that no one else wished to do."

There may also be a conflict over the time required for teaching, for the students realize the faculty will evaluate them on the basis of research. Heiss (1969) found many students, particularly in the humanities, expressing an interest in teaching and decrying

"the faculty's lack of interest in preparing students for this responsibility. . . ." Sixty percent of the students found the assistantship "meaningful and 71 percent said it had increased their interest in teaching." Previously (1967) she found students in the biological and physical sciences critical of the teaching assistantship, one-quarter of them describing it as "rarely fruitful." The most frequently cited criticism was the routine nature of the responsibilities that were only "peripherally related to teaching," lacked progressive development and supervision, and demanded too much time for the compensation received. Again, students in the humanities and social sciences seemed more satisfied, some describing the teaching assistantship as "one of the richest experiences offered by the graduate program."

Nowlis, Clark, and Rock (1968) found similar criticisms. In the universities surveyed they found that teaching assistant training programs ranged from "throwing a warm body in front of the class" and forgetting both the teaching assistant and the class until grades were due, to extensive programs whereby teaching assistants were gradually moved from routine tasks to positions of greater responsibility. They also discovered in polling graduate students, faculty members, and undergraduates that teaching assistants expressed three major concerns: their departments were not concerned with assisting them; their various roles conflicted; and they were uncertain about their status. The roles of student, teacher, and professional apprentice rarely complemented each other. More often the student was required to stress one of these roles to the detriment of the others. Some who enjoyed teaching let nothing interfere with it and "a few find themselves more interested in teaching than in making progress toward the degree." Heiss (1970) also found graduate students attributing some attrition to teaching assistants who were more interested in their undergraduate students then their own welfare in graduate school.

The uncertainty of the teaching assistant's status is related to the various roles required of him. Nowlis, et al., states that while he is expected to perform as a teacher, he has few of the privileges associated with the teacher; furthermore, he wonders if his students see him as a "menial assistant" to the professor, or as a bona fide teacher.

> Finally, particularly when he is faced with a group of undergraduates among whom are individuals more intelligent or more aggressive, or both, than he, the graduate student reports that he has problems with respect to self-confidence. The anxiety he feels

> in anticipating or in meeting the class leads to many responses. . . .

Heiss (1970) found that only 12 percent of the graduate students rated the faculty's interest in the student as a developing teacher as high; 28 percent rated the interest as average and 39 percent of the students rated it as low. The data collected by Nowlis and his colleagues tend to substantiate the students' assertions—not necessarily because faculty members are uninterested in the teaching assistant but because they are preoccupied by other aspects of the teaching assistant programs. Department chairmen and senior colleagues, according to Nowlis, et al., were concerned with administrative and management problems, such as student selection and support, and "there was an important degree of discrepancy between what the chairmen believed to occur in the classroom . . . and what the students of both levels reported to occur." Nowlis and his colleagues felt that chairmen were least acquainted with the supervision and training of teaching assistants and that "a casual delegation of these responsibilities leads to . . . errors of omission and commission: in last-minute assignments to the assistantships, in the use of too few assistants or of unprepared, resentful, or mediocre assistants. . . ."

In another study (Mackertich, 1970), many graduate faculty members referred to assistantships as "a necessary evil" and left the impression that given enough funds and manpower they would do away with them altogether. It is little wonder, conclude some investigators, that teaching assistants join unions. The near unanimity of opinion in the literature and research findings on teaching assistants indicates that much improvement is needed not only in terms of better preparing college teachers but also in terms of improving the graduate school experience for these students as well as improving their effectiveness in undergraduate classrooms where they provide a large percentage of the instruction.

The part-time graduate student is another individual who has difficulty adjusting to graduate school. His problems are ignored in the graduate schools themselves, and generally ignored in the literature on graduate education.

Huganir (in Eshelman (ed.), 1965) paints this portrait of the faculties' ideal graduate student:

> . . . he is completely dedicated, he has no distractions, no wife, no girl, (certainly no children if he has a wife), no economic

> difficulties, no psychological problems, no intellectual limitations, and no physical inadequacies. Furthermore this paragon knows what he wants, where he is going, and knows how to get there. . . .
>
> The part-time graduate students with whom I am familiar possess all of and even more of the distractions I have enumerated.

The principal problems with part-time status have been summed up by an AGS-AAU committee (*Association. . .*, 1966) where they note that the part-time student:

> is deprived of sustained and sustaining contact with faculty and students, is denied rich opportunities to use lab and library, or to witness research in progress, and faces the strain not only of physical fatigue in the dwindling hours of the late afternoon classes and the gathered gloom of the nighttime course, but also the psychic pressure of constant refocus.

Although the few commentators who have written about part-time graduate students cite national enrollment statistics that show the majority of graduate students are part-time (AGS, 1966; Arlt, 1969), these figures include both master's degree candidates and students in areas other than the arts and sciences. However, there are part-time students working on Ph.D.'s who are given scant attention by their departments, and their problems are real. Huganir's survey of part-time students showed more responsibility for dependents, more work responsibility, and higher age levels when these students were compared with full-time graduate students. In some departments, part-time students are in the majority. Hunter's figures demonstrated that 58 percent of the students in mathematics and statistics were part-time. The humanities generally had large part-time contingents. Creager (1971) found over one-quarter of the doctoral students he surveyed were enrolled on a part-time basis.

Until recently, interest in providing solutions to the problem of part-time study on campus has been slight. The AGS committee (1966), for instance, suggested that universities should convince employers to free promising young men with an adequate subsistence stipend for a specified period to study full-time. More recently, recognition that something can be done on campus has been growing. Arlt (1969) and Dearing and Lederer (1967) note that graduate schools will be called upon to provide a continuing education function and that increased flexibility for the part-time student will be a necessity. The American Political Science Association has urged universities to provide part-time

programs for students unable to pursue graduate work on a full-time basis (see *The Chronicle of Higher Education,* September 27, 1971).

Other characteristics also influenced the chances of a student's being full or part-time (Hunter). Seventy-five percent of non-U.S. citizens were full-time, and the younger the student the better his chance of being full-time: 68 percent of the men under 23 in graduate school were full-time; 51 percent of the men aged 24 to 28 were part-time; and 68 percent of the men over 29 in graduate school were part-time.

Many of these part-time students have an additional problem: they are women. Hunter found that 67 percent of the women in his study were part-time students. Although in raw numbers men outnumber women as part-time students both in the first year of graduate study and in succeeding years, twice as many women enroll part-time in their first year as enroll full-time, and in succeeding years fully 44 percent of them are still enrolled on a part-time basis.*

Even if full-time students, women still face difficulties according to their defenders. In addition to the typical problems of the graduate student, women have a few of their own, say Packer and Waggoner (1970):

> Graduate school has been described as a test of endurance rather than intellect; and it is certainly true that any candidate needs large reserves of self-confidence and determination simply to endure. But consider the position of the woman student. A chorus of parents, educators, and psychologists have all her life repeated the same tedious litany of inevitable defeat: you can't make it, won't make it, are abnormal if you want to make it. If she drops out of school, no one will condemn her; if she perseveres, she will only win the right to begin another battle—this time a lifelong one—against academic discrimination.

Women charge that discrimination against them is the reason so few women are interested in graduate education, in enrolling, or in receiving degrees, and the available evidence does give some credence to this charge. Heiss (1970) found clear indications of prejudice against women in admissions and financial aid in graduate departments. Furthermore, at Yale women students thought

*See *Students Enrolled for Advanced Degrees, Institutional Data, Fall 1969*. Prepared by Marjorie O. Chandler and Mary Evans Hooper for the National Center for Educational Statistics, Washington: GPO, 1970.

they were not accorded the same financial support or faculty time as male students. Although no evidence of discrimination in admissions or aid was evident at Yale, the comments of directors of graduate studies did indicate that subtle discrimination might be taking place (Bakke, 1969):

> . . .their assumptions about the improbability that women will make a contribution to the profession in the future equivalent to that of men leads to the conclusion that even some of those who approved of "no discrimination" have to make a special effort to avoid the predisposition to discriminatory decisions. . . .

An NIH study (*Special Report. . .*, 1968) on women and graduate study showed that although in 1961 over 72 percent of the women earning bachelor's degrees planned to attend graduate or professional schools, 3 years later only 42 percent had enrolled. Some of the women were not qualified; others faced different obstacles: disapproval of husband; need to care for children; lack of finances; and no graduate school in the immediate area. Financially, only one-quarter of the women enrolled in graduate study received stipends—compared to almost one-half of the men. The availability of funds ranged from 76 percent being granted aid in medicine to 22 percent in the humanities. Seventy-five percent of the women in science indicated that research was one of their career goals—with more "good" students indicating this as a goal. Beyond the need of more financial support for women, the authors of this report conclude that improvement of the percentages of women enrolling in graduate work requires the availability of day-care centers, opportunities for part-time matriculation, and an increase in acceptance from husbands and families.

Once in graduate school, the discrimination noted by Heiss may not cease. Rossi (1970) found that "two-thirds. . .of the women doctoral students [in prestigious graduate departments of sociology] have no model of a woman sociologist at a senior rank in their department." Rossi found, moreover, that departments with more than the average number of women faculty members had higher proportions of women graduate students, while departments with few women faculty members had few women graduate students.

> No doubt there are several processes at work to produce this relationship. For one, on either an overt or a subtle level, departments that welcome women as colleagues to the faculty may adhere to strictly universalistic criteria in the admission of

> graduate students. . . . For another, women on the departmental faculty may be a source of significant encouragement . . . serving as . . . positive models whose presence encourages the younger women students to feel they, too, will be welcomed to sociology faculties in the future.

Rossi concluded that the lack of women on graduate faculties could be a significant source of anxiety for women students.

In addition to women's problems arising from simple neglect of their needs, some evidence exists of blatant antagonism to women in graduate departments of arts and sciences. Fox (*Women on Campus,* 1970) questioned 25 women graduate students in sociology. All were doing well academically but felt that the male students in the department were skeptical about a woman's purpose in enrolling in graduate school as well as her commitment to an academic field.

> Men expressed two views to me and to other women in my study. One was that women have the option of leaving at any time they want to [because] women don't *have* to be in graduate school. The second view was that I was weird—I was a fool for being there when I didn't have to be.

According to Fox, faculty also hold assumptions about women graduate students. They act as if women will not finish the program and that if they do, they will be unable to compete as professionals. Moreover:

> I'm probably going to overstate the case . . . if they do publish . . . they won't be any good. . . . And if by chance they are good, then they're abnormal. . . .

A further problem that is virtually ignored, Fox asserts, is the sexually ambiguous relationship between male faculty members and female graduate students, which must be faced rather than ignored before the problems facing women graduate students could be completely resolved. The results of her study, according to Fox, support Rossi's complaint that "there is no positive support for women built into the system."

A study of undergraduate and graduate women at the University of Washington (*Report on the Status* . . . , 1971) concluded that although discrimination against women in graduate admissions could not be proven, clear evidence in the secondary and undergraduate programs of career channeling of women was evident. Moreover, although the data on female graduate attrition

was incomplete, marriage did not appear to be significant in the attrition of women. Women students reported comments on their ability, their lack of commitment, physical appearance, and suspect motives, such as looking for a husband.

Creager found that over 30 percent of the women studying for the Ph.D. agreed to some extent with the statement that professors in their departments do not take female graduate students seriously. Over one-fifth of the male Ph.D. students also largely agreed with this statement. In another question stating that female graduate students in the department were not as dedicated to the field as male graduate students, over 80 percent of the female students disagreed, compared to slightly over 75 percent of the male students. Almost one-quarter of the men agreed to some extent that women were not as dedicated, compared to slightly over 17 percent of the females. The differences are not great but indicate some tendency on the part of male graduate students to regard the female with a jaundiced eye.

3 Length of Doctoral Study

Rationalization For Length

The time required for the doctorate invariably is longer than the standard 3 years prescribed in most catalogs. This frequently is decried as forcing the student to accept a subordinate position for a far longer period than anticipated. If a student wants the degree, he will keep plodding along till he receives it. The sadistic professor is often cast as the villain: "The graduate professor may hold up the completion of the thesis for 10 years, or, if he chooses, refuse approval altogether without consultation with his colleagues on the faculty." (Carmichael, 1961)

The length of time actually required for the degree varies among the disciplines. Students in science usually finish their degrees earliest, followed by the social sciences, with the humanities students taking the longest time. Carmichael estimated that the average student in the sciences took 7 years to complete the degree, while the average student in the humanities took 12.

Various reasons for these differences are advanced. Heard (1963) notes that the kind of research pursued in the sciences and the relationship between the professor and students is different from the kinds of research and relationships in the social sciences and humanities. The dissertation is often related to the professor's project, so there is closer contact between the two; also, the necessity of laboratory facilities for research means the student in science must remain on campus during the dissertation portion of his work. Carmichael (1961) takes a similar position, believing that graduate work in science is ideally suited to "graduate school methods," since the sciences stress facts; in other areas, however,

he felt that facts were important only in relation to ideas, concepts, and values.

Cooke (in Eshelman (ed.), 1970) also comments upon the relationship between the professor and the graduate student. In Cooke's view, science students have a closer relationship with professors than students in other subject areas, since the professor will be instrumental in selecting and assisting them with their dissertations. Moreover, this relationship is reciprocal: the quality of the students' research under the professor's grant reflects on him. In the social sciences and humanities, however, the student normally chooses his own topic and works on it by himself, with varying degrees of assistance from the professor. The results of his research have no impact on the professor's reputation, so the professor in these areas does not have the motivation to monitor the student's progress as closely as the professor in the sciences. To these considerations, Crawford (in Eshelman (ed.), 1965) adds that the student in the sciences is introduced to the methodology of his discipline in his undergraduate program, and that this gives science students a time advantage when they reach graduate school.

Student financial support is conceded to be the principal reason for delay in completing the Ph.D. Noting some students prefer university life to the outside world, that others have difficulty with a particular degree requirement, that some are delayed by assistantship problems, and that others have insufficient guidance from their supervisor, Berelson adds that lack of adequate financial support to allow students to work full-time on their studies is "by far and away the major reason. . .for the delay in receiving the degree. . . ." Prior agrees (in Walters (ed.), 1965) and comments that the student in graduate school comes from a less affluent home than the student in law or medical school. Furthermore, he adds that comparing the length of time required for the degree in graduate school with that required for degrees in medical or law schools is unrealistic because the dissertation is such an unpredictable element in graduate work:

> When a student enters a graduate school he does not. . .enter a class with which he hopes to graduate; he enters upon a degree program whose end is not precisely known. It is not possible to predict in advance just how long the research will take, what unexpected difficulties will arise, and just how much time will be required to organize and write up the results.

Some critics, however, do not believe that financial or research problems explain the inordinate length of doctoral programs. Beach (in Walters (ed.), 1965) notes:

> Clearly, the burden of proof is on the graduate schools to show why fewer than one in ten of over 150,000 carefully selected, well-supported, and expensively trained Ph.D. candidates manage to take the degree each year. It is not enough. . .to explain that 70 percent of all graduate students come from white-collar families of modest social standing and income, that many of them have had to interrupt their studies. . . . The cultural lag [of aspirants] has clearly and convincingly been compensated by the dedicated efforts of this upwardly mobile element in our society. . . . No, the students cannot be held responsible for a world they never made.

A former graduate dean at Stanford supports this position (Whitaker, in *Study of Education at Stanford,* 1969). He notes that the demands for more financial support have always characterized graduate education, and that reduction in time requirements had always been promised if more support were forthcoming. However, in the sixties when support was greatly increased—so much so that "for all practical purposes," all Ph.D. candidates *were* supported—no great changes in the time requirements occurred:

> Adequate financial support should have produced a far greater effect in regularizing and speeding up the whole process of Ph.D. training than it has so far achieved. There is no question, in my judgment, that many faculty members and even departments are thinking in terms of the conditions that obtained (sic) when the present senior generation of faculty members earned their own Ph.D.'s.

Allen, noting that the average correspondent in his study on Ph.D.'s in English required 7½ years, concluded, "there is possibly something wrong with a system which ostensibly proposed an ideal that is practically never reached." He blamed the problem on the faculty for ensuring that their students went through the same "suffering" they had experienced in obtaining their degree.

Harrison (in Eshelman (ed.), 1965) also blames the faculty for problems with doctoral programs. He feels that doctoral programs are not programs at all, and that graduate curricula could more aptly be described as runarounds, since specialization, personal direction by faculty members, individual differences among

students, and flexible time schedules ensure that a *real* program does not exist:

> The student tends to start off thinking he is entering a race. When he starts to run, he discovers that each runner is headed in a different direction—the surface of the path is different for each, some have farther to run than others, and the winning time seems to vary also.

The problems that Harrison deplores are at the very heart of graduate education. As Heard (1963) says, "graduate schools offer the doctoral student more opportunity than guidance," and the fact that each student must find his own way through the graduate school thicket is "cherished" by most faculties. Obviously, "severe discontinuities in individual careers. . .result. Inefficient use of time and poor judgment in planning. . .are often manifest."

Breneman (1970) makes the strongest case against faculty members. He suggests that faculty members do not delay students merely to ensure that the students go through the same torture as the faculty, *but to protect their own economic interests.* Citing a longitudinal study of graduate students by departments which found that 408 student-years in chemistry produced 94 Ph.D.'s and 14 M.A.'s, while 312 student-years in political science produced only 6 Ph.D.'s and 26 M.A.'s, he suggested that as a function of the job market, science faculties were producing Ph.D.'s faster than other areas because of the demand for scientists in teaching, business, and government. Since the social sciences in the sixties experienced some moderate increase in demand for Ph.D.'s, they produced doctorates somewhat faster than the humanities, which experienced very little increase in demand. Moreover, some departments, such as those in modern languages, do not have a large demand for their Ph.D.'s but quite frequently serve a large service function for undergraduates. These departments need graduate students for the survey courses, and such departments are likely to prolong the student's program. If they do decide to drop the candidate (since he is not employable), the attrition will occur much later than it will in the sciences.

Research On Time Requirements

Research of the amount of time required for the doctorate does bear out some of the complaints of critics; however, the

research also indicates that critics overstate the case—not all time between receipt of the bachelor's degree and receipt of the Ph.D. is spent in graduate study.

Alexander Heard (1963) found that students in doctoral programs in southern universities finished college at a median age of 22.4 years and completed their doctorate at a median age of 30.8 years.

> In some fields, the median age of finishing the doctorate was even higher—for example, about 34 years in economics and 35 in English. One-fourth of the students in eight of 15 academic fields studied were over 35 when getting the doctorate and one-fourth of those in history and English were over 40. The median age for completion was lowest in chemistry, 28.4 years, but even there half the students took at least six years.

Age at receipt of the degree means little by itself. As Heard noted, many students do not enter graduate school immediately after their graduation from college. Other researchers have commented upon the same problem (Davis, 1962; Berelson, 1960; Wilson, 1965; Gropper and Fitzpatrick, 1959); over 40 percent of Davis' students spent a year or more out of school before beginning graduate work. Even so, Heard found that the time elapsed between entry into graduate school and degree completion averaged 7.6 years. A quarter of all students in all fields took over 9.2 years. Although most graduate school catalogs imply the Ph.D. can be earned within 3 years, 4 years has come to be accepted as a more reasonable estimate. Heard found that only one student in seven in his sample even met the 4-year standard.

Crawford (in Eshelman (ed.), 1965) cites National Research Council figures on the recipients of Ph.D.'s in 1961 that show the median number of years required to complete the Ph.D. in broad areas: 7.8 years in the physical sciences, 8.9 years in the biological sciences, 10.4 years in the social sciences, and 12 years in the humanities.

Berelson concluded that the actual time spent in doctoral study was only a half to one-third of the elapsed time from enrollment to degree. Heard acknowledges this finding and points out that in his sample, while students in the biological and physical sciences received their degrees faster than students in the social sciences or humanities, the science students spent *more* time in actual attendance at graduate school. Analyzing Heard's data in greater depth, Wilson (1965) concludes that the major problem in the time taken to the degree was not the time spent in doctoral

study but the amount of time spent doing other things. Wilson sees discontinuities in attendance and in programs as characteristic of many students. Heard's figures illustrate this: although 7.6 years passed between entrance and degree completion for his respondents, 4.4-calendar-years' attendance was the average. Creager found that although two-thirds of his respondents had not missed an academic year since enrolling, the rest had discontinued for periods ranging from less than 1 year to over 5 years.

Heard lists three characteristics that slow degree progress: (1) lack of clarity of purpose; (2) lack of continuity in the degree program; (3) lack of financial aid of the sort that does not hinder progress. Students taking longer to obtain the degree were more likely to decide on graduate study after their senior year of college than those completing the degree more quickly. Those students who completed their work more quickly also set the Ph.D. as a goal sooner in their graduate school program than did students who took more time. It is likely that students who took longer to attain the Ph.D. originally thought of themselves as pursuing only the master's degree. In fact, over 50 percent of these students interrupted their studies after receiving the master's degree as compared to 17 percent of those who completed their requirements more quickly. One-third of the students interrupting at the master's level viewed it as their terminal degree.

Hunter (1967) found similar results. Only one-half of his respondents went immediately into graduate school and one-fifth of them waited more than 5 years after receiving the bachelor's degree. Students with high undergraduate gradepoint averages and science students characteristically enrolled in graduate programs more quickly. Interruptions and part-time study extended the time required for the degree and students indicated financial difficulty was the main hindrance to continuous full-time enrollment.

Other problems inherent in graduate education also lengthen time to the degree. Intermittent attendance was the most important problem according to Heard's respondents, followed by the necessity of writing the dissertation off-campus and work as a teaching assistant. It was in the later stages of doctoral study that time differentials related to disciplines became apparent. Seven-eighths of the students had earned master's degrees en route to the Ph.D. and the median time required for the master's was virtually identical in all areas. However, from master's to doctorate required only 3.8 years for students in the physical sciences compared to

4.1 years in the biosciences, 4.6 in social science, and 6.7 in the humanities. The dissertation, Heard concluded, was the source of greatest variation.

The degree recipients also viewed lack of coordination between initial and advanced stages of their programs as a delaying matter of great import. Transfers from one institution to another, foreign language problems, and inadequate undergraduate preparation were given somewhat lesser weight. Heard found that graduate deans and faculty members generally did not share the recipients' concern with coordination of graduate programs. "Only 13 percent of their suggestions for shortening doctoral study looked toward developing the clearer. . .expectations that, implicitly, the students seemed to think would help."

Finally, Heard noted:

> Attitudes expressed by recent Ph.D. recipients are, in themselves, a spur to curiosity. On looking back, many of these former students felt they had not known what they were getting into when they started doctoral work. Some 42 percent said the Ph.D. program had taken longer than expected. . . . Over half of them *in every field*—and these were successful Ph.D. students, the ones who got through—had suggestions for reducing the time taken without altering the existing framework of requirements.

Wilson suggests this difference between expectation and reality creates serious problems of orientation and self-confidence for students:

> . . .the extent of discrepancies revealed between individual expectation and subsequent 'reality' suggests that many individuals initiated the doctoral phase of their graduate programs with an unrealistic conception of the time likely to be taken for completion of all degree requirements. These data suggest, also, that the problem of reconciling rate of progress with initial expectation may have been a source of considerable anxiety, doubt, and undue self-examination on the part of many candidates.

Surprisingly, some one-fifth of the degree recipients did not want the time reduced. The arguments for not reducing the time were concerned with maintaining the quality of the degree and with the value of time as an aid to developing "professional maturity." A small proportion of those who did not want the time reduced would have actually added requirements even if it meant adding time, and 5 percent of this group said more time would be desirable. Proportionately more of those not favoring time reduction were in the sciences.

The 70 percent who favored time reduction offered suggestions in the following areas: financial aid (35.4 percent); dissertation and research (25 percent); organization of courses and curricula (24.7 percent); language requirements (24.4 percent). Administrative procedures and undergraduate programs were also mentioned by sizable minorities of the respondents.

Wilson assigned less importance than did Heard to the coordination of programs and the organization of curricula. He agreed about the factors listed by students, such as discontinuity in attendance, teaching assistantships, the nature of the dissertation topic, the necessity of completing the dissertation off-campus while working, and financial problems. According to Wilson, language problems seemed to be only moderately important. Other areas that are the subject of frequent complaints—changes in dissertation topics, work as a research assistant, and changes in the dissertation committee—were mentioned but were among the least important factors.

Commitment and Attrition

Many students do not last the course in graduate programs. Critics of graduate education claim that this is due to the meaningless hurdles and subordinate posture the student is forced to accept. Others, however, claim that attrition on the graduate level is due to either lack of ability or commitment to the field.

Berelson asked graduate deans to estimate the attrition at their institutions and concluded that attrition of 40 percent characterized graduate education. Davis (1962) following up his graduate students 1 year later found that 36 percent had dropped out of school, that academic ability was related to dropping out, and that morale, personal adjustment, and criticism could *not* be correlated with attrition. Nor did financial worries in 1958 seem to be associated with dropping out. In Davis' view:

> Except for the divisional differences, most of these findings can be loosely interpreted as indices of involvement in graduate school versus involvement in the world outside it. The more the student is involved in school, the more likely he is to stay an additional year.

In the most comprehensive study of attrition, Tucker (1964) concluded that only 31 percent of those actually enrolled in Ph.D.

programs (excluding those students who transferred, "special students," and those in master's degree programs) left graduate programs. Attrition, therefore, he concluded was not nearly as bad as it had been alleged to be. Moreover, he found that most of the dropouts had gone as far as their ability or motivation would take them and therefore dropping out was related to ability and commitment to the field. Ability without motivation was not sufficient for success in graduate study. Most of the dropouts indicated that the research requirement was their major problem. (Since the whole sample had received the M.A., it was felt that they could handle the course work.) Twenty percent of the students indicated that finances were the major problem.

Berelson noted that graduate deans and faculty members in his survey did not consider attrition a serious problem. These administrators and faculty felt it had nothing to do with graduate programs but was a function of ability and/or money. However, Berelson concluded that recent recipients of the Ph.D. were correct in rating student disappointment as a factor in leaving graduate school. Recipients also rated stamina as an important attribute for degree success. Finally, Berelson agreed with recipients, faculty members, and deans in believing that lack of intellectual ability characterized dropouts. Allen, on the other hand, found that department chairmen and faculty members felt loss of interest in the graduate study of English and American literature was an important factor in a student leaving school.

A problem that Berelson and Bennett isolated was that faculty and chairmen did not really understand the extent of attrition in their departments. In Berelson's view, the faculty believed that attrition was only about 20 percent in their departments, and they considered this to be an acceptable, even anticipated, amount. Bennett, et al., noted that even the crudest data was not compiled by some departments:

> Several departments, including some very prestigious ones, failed to report the number of students enrolled, the number of students on scholarship. . . . Others indicated that the data on the number of students was only a rough estimate, and a few failed even to supply this figure. One responding department apparently did not even know how many faculty members it had.

Heiss (1970), commenting upon Tucker's findings, claimed that although Tucker believed attrition was due to lack of commitment or ability, his figures on the lack of faculty sensitivity to graduate students indicated that many students might

have dropped out for other reasons. In fact, in Tucker's study doctoral recipients rated faculty sensitivity to student needs as being low, while dropouts rated it even lower. Heiss found that over one-third of the students in her sample had interrupted their studies or had considered dropping out. When questioned as to the reasons for considering leaving, several were given: 16 percent mentioned academic problems, 25 percent lost interest in the field, 26 percent complained of the lack of faculty interest in students, and 37 percent mentioned the strain of passing "hurdles." Almost 14 percent complained of a poor relationship with their adviser and almost 6 percent felt the same true of their sponsor. Over 40 percent were tired of studying and almost 45 percent were disillusioned with graduate work.

Creager (1971) found that 10.9 percent of Ph.D. students agreed strongly that some of the best students dropped out of graduate work because they did not wish to "play the game," and that 13.6 percent had seriously considered dropping out themselves. Just over 20 percent agreed with reservations that some of the best students left, and 67 percent either disagreed strongly or with reservations. Answering a similar question, almost one-third of the responding university professors agreed that good students left graduate school (Bayer, 1971). Creager also found that 6 percent of the doctoral students felt that lack of interest would prevent them from finishing their degree and that 17 percent thought it might. Given options to answer other possible problems with degree completion, some students answered that at least some possibility existed that the following would hinder them: finances—36 percent; a job offer—26.5 percent; academic inability—18.9 percent; emotional strain—29.7 percent.

Heiss (1970) found many doctoral students expressing "distress" at the fact that many good students dropped out of Ph.D. programs. One student wrote:

> Of the dozen or so dropouts whom I personally know, in most cases the reason was insufficient attention to the niceties of obtaining an academic degree: filling one's schedule with stimulating courses unrelated to degree requirements; devoting all one's time to a T.A.-ship. . .; taking so long to prepare for oral exams that the committee eventually departed. . .; antagonizing a professor in class, etc.

Heiss felt that some indication of the students' commitment to their respective fields would be found in the fact that 87

percent of all students in all universities would select the same discipline again, whereas over 25 percent of them would not choose the same institution at which to study. Satisfaction with the choice of discipline was particularly high in mathematics, psychology, chemistry, physiology, history, English, and biochemistry—around 90 percent in most cases—"whereas an average of 18 percent of the respondents in physics, French, and economics were dissatisfied. . . ." Student dissatisfaction with the institution was under 20 percent in chemistry, and physiology, and over 30 percent in economics, English, French, philosophy, and sociology. The students most dissatisfied with their discipline cited research emphasis, lack of relevance, and the rigidity of the requirements. Those unhappy with their choice of institution cited its impersonality, size, rigid requirements, and lack of meaningful intellectual relationships with faculty members.

Creager also questioned students in areas that could be considered related to their commitment to their discipline or satisfaction with their graduate institution. He found that 17.9 percent would probably or definitely not choose the same discipline and that of those who would not choose the same discipline, 43.5 percent would choose a field close to their current one, and 30.5 would choose a related area. Moreover, over 80 percent agreed with or without reservations that they were in graduate school due to their basic interest in the field and that they hoped to make a contribution to the field. Over 50 percent agreed with reservations that when talking with other graduate students they usually discussed their field of study and over 16 percent agreed to this strongly.

As with Heiss' figures, more dissatisfaction was registered with the institution. Although over 58 percent of the doctoral students indicated that they had not considered changing institutions, over 6 percent indicated that they definitely were going to change their institution; over 13 percent had considered such a change seriously; and over 22 percent had considered it, but not too seriously.

4 Components of Ph.D. Programs

The various requirements that comprise the typical Ph.D. program also drew criticism, frequently on the basis that one requirement or another prolonged doctoral studies. Spurr (1970) described the typical Ph.D. program in the following terms:

> The Ph.D. program normally requires at least as much course work as the master's program in the same field, usually at least one and frequently as much as two additional years of formal study. During this portion of the doctor's program, the student must spend at least one academic year in residence, meet foreign language . . . requirements, frequently pass a set of qualifying examinations early in the period for doctoral study, and almost invariably pass a set of comprehensive examinations before being admitted to candidacy. As a candidate, the student must prepare a doctoral dissertation . . . . He must also go through a formal defense of his dissertation, an exercise which may or may not be public.

Commentators have called in question virtually all of these requirements. In fact, if each criticism were acted upon, doctoral programs would simply disappear to be replaced by independent study and a brief dissertation demonstrating the candidates' mastery of the research techniques in his discipline. The complaints are not new. Criticism of doctoral training by deans attending annual meetings of the Association of American Universities from 1901 to 1912 has been traced by Berelson. With minor differences, the complaints mirror those of the sixties: concern with overspecialization, lack of teacher training, poor preparation, language problems, the integrity of the degree, and others.

Languages

Of all the complaints, those against the language requirements are perhaps the most common. Specifying two languages, such as French or German, can be a hindrance to a student who might have more need of Russian or Spanish. Moreover, it is charged that students waste much time learning languages to pass examinations and then promptly forget the language. His grasp of the language is so tenuous, says Scaff (1968), that he has to use translations anyway. "The requirements under these circumstances . . . become perfunctory and thus an interference in the candidates' scholarly progress." Other critics claim that the availability of translations makes the language requirement anachronistic (Morgen, in Eshelman (ed.), 1965), that few students use the language in their dissertation or course work (Allen), and that the requirement should be dropped. Allen suggests that "the ambitious scholar who really needs to know languages for research purposes will certainly learn them and learn them well without being coerced."

Proponents of language requirements frequently argue that the student should know the languages by the time he enters his graduate program. Language proficiency should be a fixed requirement for admission says Woodring (1968), since it is unfair to ask the student to pay tuition fees to a graduate school while he is gaining an elementary knowledge of a foreign language. Others claim that language requirements should be retained to prevent erosion of standards, or for cultural reasons. "The best defense," says Prior (in Walters (ed.), 1965), still remains that inability to read one or more of the foreign languages . . . is a serious handicap to a man who wishes to make a career of the pursuit of learning."

Research on language requirements in graduate school and student reactions to them tend to substantiate the critics. Most institutions do require languages. Gurstelle and Yuker (1969) found that only one school out of 15 in New York City area did not require a language on the doctoral level. Over half of them had university-wide requirements and the rest had departmental requirements. These authors also surveyed studies on the use of foreign languages after receiving the degree and concluded:

> . . . the extent of use varies from field to field, and half of the dissertations contain fewer than three references. Over half of the total number of foreign references were in 5 percent of the dissertations, most of which were written by students who were

either foreign born or had lived or studied abroad. There is also the possibility that not all of the references cited were actually referred to.

Allen (1968) found that most degree recipients demonstrated their knowledge of French and German by passing reading examinations, and that a third of them had to pass three language examinations. Over 70 percent had to learn a language after enrolling in graduate school. About half of Allen's group had used the language in subsequent research and one-quarter of the recipients admitted that they had not used the language since receiving their degrees. Although department heads defended the requirement on the grounds of general education, the faculty tended to cite cultural and utilitarian research reasons. However, Allen found that two-thirds of the graduate professors had not in the 1965-66 academic year required their students to use a language, nor had half of them received a report or paper utilizing a language. Department chairmen and faculty divided almost equally on the proposition that one well understood language would be preferable to two marginally known.

Berelson found that only one-quarter of the recent recipients of the Ph.D. felt they really knew the languages they were presumed to have mastered and that slightly less than half had actually used the languages in their doctoral programs. The faculty members surveyed by Berelson were divided evenly three ways between accepting language requirements as they stood, relaxing requirements, or requiring more knowledge of a language. Seventy-five percent of the recent recipients surveyed by Berelson felt that the foreign language requirement had become "form without substance."

Heiss (1967, 1970) also found graduate students critical of language requirements. In 1967 over half of her respondents characterized the language requirement as nothing more than an "institutionalized ritual" and free comments "revealed a deep discontent" with the requirement. Students argued that translations were available, that they were not required to use a language, and that professors often did not use them. Some evidence of language as a morale problem appeared, since language requirements and proficiency levels varied from department to department. In 1970, almost 60 percent of the respondents reported that the requirement contributed nothing to their intellectual development. Again, a "chorus of gratuitous comments" criticized the

requirement as useless and almost immoral due to the superficiality of the knowledge required. Fifty-eight percent of the students reported they never used a foreign language in course work, 38 percent did not use languages in research, and 45 percent did not use languages in outside reading.

Dissertation and Research

Another frequently criticized component of graduate programs is the dissertation and accompanying research. Spurr (1970) described the dissertation as "theoretically embodying original research but practically compensating for lack of originality by length." Berelson outlined the major problems of the dissertation as problems of independence, time, and length. Of independence, the topic ideally should be chosen by the student or it could be "dictated" by the supervisor. In addition, while working on the topic the student might have too little independence (typical of the sciences) or too little supervision (typical of non-science areas). The dissertation was also an important contributor to delay in receiving the degree since many students took so long with it. Moreover, some students began more than one dissertation and many work on the dissertation while away from campus. Length, Berelson's major criticism of the dissertation, also was an issue. Realistically only one or two faculty members could be expected to read thoroughly dissertations ranging from 200 to 600 pages. Furthermore, in the interests of "time and humanitarianism," the long dissertation could not be redone in its entirety as could a shorter 100 or 150 page dissertation.

Wolff (1969) asserted that the pressure on the student to complete his program also hurt the dissertation:

> Don't attempt an original and creative work, the candidate is told. Do something merely different and competent. Edit a text too obscure to have caught another scholar's eye; survey the complete works of a minor figure justly forgotten; ring one more change on some old ideas which have not suffered *every* possible permutation as yet.
>
> Surely it is obvious that no good can come of such a system. Those few candidates who have the seeds of creation within them will be blighted by the necessity of contorting their original thoughts into the unnatural shape of the dissertation. The others . . . are compelled to drag out of themselves . . . a new idea, wasting their energies and . . . destroying their enthusiasm for their chosen subject.

The results of years spent on dissertations, says Wolff, can be ruined marriages, neglected children, and years "of fruitful work blighted by the curse of the unfinished dissertations." In the same vein, Barzun (1968) notes that the dissertation is the last step in a costly and time-consuming process and can be beyond the strength of many able students, "not intellectually, but financially, socially, emotionally."

Others cite surveys indicating that few Ph.D.'s ever publish after receiving their degree (Brennan in Eshelman (ed.), 1969) and that requiring a dissertation as training for future research careers cannot be justified. Obviously, supporters of research training do not accept this argument. Henle (*Proceedings of the Workshop . . .*, 1969) claims that the primary function of graduate education is to produce a master in a discipline, not a professional researcher. Prior (in Walters (ed.), 1965) agrees and notes that criticism of the Ph.D. on the grounds that many degree recipients never again engage in research is not valid: "A case could even be made out that the experience of the dissertation has given those who have undergone it an understanding of the way knowledge grows . . . ."

In addition to attacking the purpose of the dissertation training and the triviality of much of the research, critics also belittle the defense of the dissertation. It is agreed that this final evaluation is nothing more than a charade in most cases, a vestige of what was once the crucial point in doctoral work. It is not a real defense, says Allen (1968), because scarcely anyone on the committee knows enough to attack the student's position and therefore the requirement should be abolished. He believes it is also particularly bothersome when doctoral candidates who were teaching elsewhere had to return to campus to defend their dissertations with a concomitant loss of time and money.

It is rare that anyone fails in this defense. This is not because many may not deserve to fail, says Berelson, but:

> . . . because it is then too late for a faculty to assert itself . . . and . . . because even though it may be feasible to fail the candidate, it is difficult or highly embarrassing at that point for a department to fail his sponsor, his committee, or even itself in the process.

Heiss (1970) notes that departments tend to downplay the dissertation defense today. Although retaining the right to require a final oral examination, many of them appear to prefer a

presentation before a seminar or professional group rather than the examination.

Student reactions to various aspects of the dissertation have been recorded. Heiss (1967) reports that most students found *writing* the dissertation a fruitful experience, "although 26 percent in the biological sciences, 6 percent in the social sciences, [and] 5 percent in the humanities . . . said that this experience had not been fruitful." Heiss also concluded that the students' satisfaction with the dissertation experience was due to their own efforts; that students resented being ignored by sponsors; and that the major problem with dissertation writing was to "confine their research within manageable limits." Once again, the students' desire to be accepted as part of the community of scholars is evident throughout the investigation.

Writing the dissertation is only one aspect of this phase of doctoral study. The selection of the topic as well as the actual research can present problems. Heiss (1967) reported that "20 percent in the physical sciences, 16 percent in the humanities, 12 percent in the biological sciences, and 9 percent in the social sciences indicated that selecting a research topic was a stressful experience," often done in "frustrating isolation." Heiss also found that a relatively small percentage of students had little choice in the selection of their dissertation topics (1967, 1970). Eight percent of students in all areas indicated to her that they had less independence in selecting the topic than they wished, and 5 percent indicated that they did not have enough freedom in writing the research design (1970). In 1967, her figures show that this problem was slightly more likely to occur in the biological and physical sciences than in other fields. Both studies also indicated that a few students may have had less freedom in choosing a sponsor than expected.

Berelson claimed supporting dissertation research through contract funds increased the tendency to produce a "dissertation more or less to order," and this tendency had a negative effect on the student's creativity and reduced his independence. Over 60 percent of the faculty and recent recipients he surveyed agreed that many graduate school problems were the result of grants. Creager (1971) determined that many students believed the proliferation of research centers threatened genuine scholarship. Whether or not such numbers would agree with Berelson's assertions that student autonomy is abridged is another question. In fact Heiss (1967) found the great majority of students (three-fifths

in the physical and biological sciences, and over 80 percent in other areas) felt they had "enjoyed a high degree of freedom" in the selection of a topic. The remainder felt moderately free.

Allen found that graduate students in English picked topics for a variety of reasons:

> For some of them the topic of study was "an old interest"; in fact, for a few it was the continuation of their master's degree thesis or the expansion of a seminar paper. Others decided on a subject that "had not been beaten to death" or on a major author "who was not yet trampled into the ground." Often it was something either suitable to their own abilities or lack of them, to "individual tastes and talents." For these reasons one student who "wanted to avoid language problems . . . wrote on Shelley."

Allen also found that one-sixth of the students gave up on their first effort at a dissertation subject for a variety of reasons. He blamed this most frequently on the dissertation direction. A few of the problems were the students' own: some became bored with the topic or did not know the required languages. Some problems inhered in the subject: it was too ambitious or necessitated waiting for documents that "were unavailable until the death of a man aged fifty," as one student reported. Some problems were with the supervision of the dissertation: changing directors, disagreement on the topic, etc. The bitterest problems were the surprises: halfway through the dissertation, a book on the topic or a similar dissertation was discovered.

The actual research posed some problems for students. Spaeth (1963) found that in all disciplines 44 percent of the students complained about overspecialization in graduate education, which might relate to the narrow boundaries set for typical dissertation research. He found, also, that 26 percent of the students complained about lack of training for research. This finding, while surprising in view of the normal criticism that graduate education overly stresses research training, is somewhat corroborated by Heiss (1967). She found sizable minorities in all disciplines complaining that they felt inadequately prepared for research (a range from 12 percent in the physical sciences to 17 percent in the social sciences). Even physics majors, generally among the most satisfied of all graduate students, mentioned that "they planned to take a postdoctoral year in order 'to really learn how to do independent research.' "

Heiss also found that there is more concern on the part of graduate students that their academic programs and research be more oriented to current problems (1967, 1970). The 1967 study indicated that the great majority of respondents felt challenged by their doctoral programs, and that this challenge resulted in an increase in analytical ability and research interests; but "approximately 13 percent in all areas said that their research interests either had not increased or had decreased as a result of doctoral study." Heiss (1969) also found that graduate faculty and chairmen sensed:

> . . . a noticeable change in the nature of the research problems doctoral students select for their dissertations. Essentially, advisers reported that an increased number of students were interested in research with a "mission orientation." Professors noted that as students thread their way through . . . their research proposals, they appear to evince a need to justify the instrumental value of their research to society as much as its basic or intrinsic value to the discipline.

The interest in the relevance of graduate work to current problems, according to Heiss, is evident in all disciplines to differing degrees.

Possibly the most common complaint about the dissertation phase of doctoral study is length (Berelson, Allen). In eight of ten cases in Allen's study the student wrote between 150 and 500 pages, and some wrote even more:

> We ask outselves whether the results justify all of this. If not, it is undoubtedly time for graduate departments to agree on something more limited. Most dissertations have a few worthwhile points to make that can be expressed in lesser space. Probably a short study is all that should be asked of the student.

For the most part, however, there is satisfaction with the dissertation on all sides. Berelson comments:

> As the recent recipients look back on their experience with the dissertation, about half of them acknowledge that some drudgery was involved in the dissertation along with the excitement, but fewer than 10% think it was mainly "tedious, pedantic drudgery, not worth the effort in itself, but necessary for the degree" as against 35% who now, two years later, call it an "exciting, enlightening intellectual experience."

Berelson also found approximately one-fifth of the recent recipients were dissatisfied with their dissertation and he felt this to be an acceptable percentage in an enterprise the size of graduate education.

The faculty also generally seem pleased with dissertation results. Some 75 percent of Berelson's faculty sample were content with the present character of dissertations and listed the dissertation as a "particularly valuable" aspect of doctoral training. Allen found at least lukewarm acceptance of dissertations among faculty in English:

> . . . the greater number of them felt that perhaps 10 percent of the theses they knew were substantial and probably worthy contributions to literary scholarship and criticism. An equally large number of them thought half of all dissertations were adequate to their purpose. Fewer than 10 percent of the whole group marked all as almost of no value.

Allen also found the majority of recent recipients rated their dissertation work as both "exciting and absorbing," but many recent recipients had suggestions for shortening the time involved in the dissertation.

Allen commented that the defense of the dissertation usually evoked an amused reaction from the degree recipients. Eighty-five percent of his respondents had undergone the defense and one-third regarded it as "a real defense." Typical comments included: "My examiners got into a fight and I watched from the sidelines," or "Those who had read my thesis quibbled over the footnotes; those who had not, quarreled about the title." For some students, however, the defense was an excruciating experience:

> . . . it was a final round of pure agony. The examination "enables some professors to show the candidate he's still a hack," but it is also "one last bearbaiting session," with "overtones of ritual humiliation." It is "the final emotional ordeal."

General Requirements

The comprehensive aspects of the graduate programs frequently are criticized along with the specialization aspects of doctoral work. The Muscatine Report (*Education at Berkeley*, 1965) cited some evidence that comprehensive departmental curricula had "contributed to the excessive number of years which

most students spend in graduate school." In the sciences, where comprehensive approaches to disciplines were normally not attempted, the length of time students spent on the doctorate was not as long as the time spent by students in the social sciences and humanities. A committee studying graduate education in political science (Bennett, 1969) criticized distribution requirements as being inflexible and repetitive for many students, and noted that little agreement existed as to what were the essentials of the "field"; that covering the "field" might be impossible; and that distribution requirements forced a student to limit himself to a particular conceptualization of political science. Allen (1968) also criticized the view that graduate students in English should be expected to cover the whole range of English and American Literature before being certified as competent in their area.

Although general examinations usually do not receive much criticism in the literature, Bennet (1969) and his colleagues did feel there were a number of negative aspects to these examinations in addition to the positive feature of forcing the student to reevaluate and resynthesize his previous work. As the final examination prior to undertaking the dissertation it is naturally a cause of anxiety to graduate students. Moreover, the threat implied by the examination has a negative impact on the student's learning experience, and it forces a particular definition of "legitimate" (in this case) political science onto the student. The committee felt the student in a department whose philosophies were split among different orthodoxies was in a particularly vulnerable position:

> In the departments where competing orthodoxies vie for student adherents, examinations encourage if not force a particular approach at the expense of others. Even where conflict is not as deep, examinations enforce splits . . . rather than encourage new or creative approaches and thinking.

Finally, the committee criticized the examinations as: (1) rewarding "individuals who can quickly limit and focus a question rather than those who tend to consider questions in their broader ramifications"; and (2) generally testing abilities that will not be valued and are not even necessary in the world of professional scholars.

Survey responses to distribution requirements and the comprehensive examination support some of these criticisms. Heiss (1967, 1970) and Allen (1968) report criticism of core

requirements. Heiss (1970) found students criticize general requirements because of uneven course quality. Moreover, students regard required courses as the first obstacle in graduate education that tends to "generate an unhealthy competition, to emphasize grades, and to structure content . . . ." In the 1967 study, students recommend modifying the existing course structure so they may have time to pursue problems in depth, have time for independent study, papers, and time "to enjoy small-group discussions, individual oral examinations, and tutorials." Many students also reported to Creager that the variety of offerings and quality of instruction were merely poor or fair, that they were bored in class, and that part of their graduate program was wasteful repetition of undergraduate work.

Even in departments without formally announced requirements—about 16 percent of the departments of English studied by Allen—many degree recipients noted that certain courses were advisable to ensure preparation for the comprehensives. Allen found more than two-thirds of the departments had formal requirements and the requirements ranged from one to three courses on the average, with over seven departments requiring six courses.

The comprehensive examination is definitely an extremely stressful experience for graduate students according to the evidence. Allen found that the 63 departments able to supply him with figures eliminated 200 students at this point—even though questionable students were never supposed to reach this stage. In English departments, the total examination was oral in 10 percent of the departments, written in one-third, and a mixture of both in the majority. Oral examinations ran from 1 to 3 hours, written examinations from 3 to 48 hours. When both oral and written sections were required, the oral section averaged 2 hours and the written requirement averaged 10 hours.

Virtually everyone agrees on the anxiety and tension the examination engenders. Heiss found that students in every division at Berkeley listed the oral section of the examination as the most stressful experience in the doctoral program—science, social science, and humanities agreeing on this point on the average of 60 percent (1967). Heiss added:

> Tension was heightened for some who believed that they would "make or break" their future careers on the basis of their performance in a two-hour examination. Judging by the number of references to friends who had been washed out by the orals, the

> experiences of other graduates in the oral examination loom large as a stress-producing element. Many students graphically described this experience *when they had not yet faced it.*

Heiss (1970) found that students believed the written examinations were more helpful to their development than the oral, which were particularly stressful to students who had little "talent for verbalizing." Very little information is given to the student concerning the expectations during the examination, and this lack of knowledge heightens tension (Heiss, 1967). Those students who had overprepared were critical of the superficial questions asked during the orals that did not allow them to demonstrate their mastery of the field.

Allen concluded from degree recipients' comments that student anxiety is often increased when encountering unfamiliar professors on the oral board:

> He encounters professors whom he scarcely knows by sight and whose mental quirks and intellectual standards are unknown to him. Too much of the questioning is based on a "guess what I have in mind" philosophy, which only the clairvoyant can manage. In 40 percent of the graduate departments replying, the nightmare of an ocean of strange voices and manners is there to haunt the examinee.

Students were wary in departments with different ideological camps. Students reported to the APSA that they would not attempt to integrate the two viewpoints in their courses, since to do so meant courting disaster, in that both sides sat on the oral examination "each trying to outdo the other, squeezing the defenseless students in the middle."

Nevertheless, students do have some praise for the comprehensive examination, particularly the written section. Allen found some recent recipients praising the examination for weeding out doubtful students and "protecting" the profession. Moreover, even though it was a "psychological bad dream," there remained a great deal of satisfaction for the student who passed. It should be emphasized that these are reactions of the successful students; the anxiety reported by those yet to take the examinations still remains a constant. The most useful feature of the examination, according to Allen, confirms Heiss' observation: preparation for the examination in literature gave the students a knowledge of their subject they had never had before—*or since* according to one respondent. There is, of course, the element of coercion. Allen

noted that recipients used revealingly negative verbs in describing their examinations; they described the examination as *forcing* or *compelling* them to study.

Grading

Grading is another form of evaluation that is criticized with some regularity. Grading on the graduate level says Kent (in Eshelman (ed.), 1969) is nothing more than the continuation of the "gold-star syndrome" of the elementary school years, and demeans the student by requiring that he continuously seek the approval of the professor. After talking with graduate students at Harvard (*Report of the Committee . . .*, 1969), the committee on graduate education concluded that:

> The belittling aspect of grades was not the implicit evaluation, which the students rather grudgingly admitted to be necessary, but their symbolic expression of the faculty's lack of concern. Giving grades, the students felt, allowed the teacher to avoid serious engagement with the student's ideas, excused him from making extended qualitative comments on the work done, and thus expressed his unwillingness to bother about the student as a person.

Supporters of grading in graduate school oppose efforts to lessen this particular form of evaluation. Acid comments on the future of graduate education if grading is relaxed are evident: " . . . I have no doubt that in many institutions mere registration for course work will be sufficient without even pass-fail." (Deener, in Eshelman (ed.), 1970)

We have already noted Heiss' (1967) findings that students serve as pacemakers to each other, a condition that challenges some and threatens others. Over 40 percent of the students felt most graduate students were competitive grade-seekers and that some of the competition was excessive. In 1970 Heiss criticized the core program for fostering excessive competition and emphasizing grades.

Bennet and his colleagues, based on their survey of graduate students in political science, criticized grading for the same reasons, and added that grading did not provide real "feedback" on the student's progress, encouraged students to search for easy courses and professors, and hindered the student's relationships with his departmental faculty and peers.

5 Financial Status of Graduate Students

The penurious student has been a staple of popular literature for decades, and the subject of great concern in the literature on graduate education. The socioeconomic status (SES) of graduate students is blamed for delaying his degree, and graduate student sympathizers claim that the relative poverty the student has to endure compounds the indignities heaped upon him by graduate faculties.

Gropper and Fitzpatrick (1959) felt that socioeconomic status did affect entry into graduate education, and that graduate school entrants were men whose fathers had "high occupational status and educational attainment but undistinguished incomes." The consensus, however, indicates that SES has little effect on the attainment of graduate education by men (Davis, 1962; Berelson, 1960; Hunter, 1967; Wegner, 1969); for women, however, Wegner did find that low SES lowered ambition for graduate work and its attainment. Hunter (1967) found the economic backgrounds of enrolled men and women to be similar. Berelson and Davis (1962) both cited large percentages of their students as coming from lower income homes or homes with low educational attainment levels, indicating that low SES did not preclude graduate work. Creager (1971) found slightly over 50 percent of his Ph.D. students reported their father had a high school education or less. However, he also found almost 25 percent of his respondents reporting a professional occupation for their father and over 40 percent reporting white-collar occupations, mostly managerial or small business ownership.

Expenses

Expenses incurred by students have been the object of some investigation. Hunter, who studied approximately 3 percent of the students enrolled for graduate work (including students in education, business, health fields and religion, but excluding doctors, dentists, and lawyers), discovered that the average *academic* expenses incurred by full-time graduate students ranged from less than $200 to over $1,700, with a median cost of just over $600 per year for those students enrolled at public universities and about $1,500 for those in private universities. At private universities, 40 percent of the students paid $1,700 or more. *Living* expenses for these students ranged from $1,000 to $9,000 per year, with a median of just over $2,000. Over half of the single students reported living expenses of less than $2,000, while almost one-half of the married men with dependents reported living expenses over $5,000. Creager found that educational expenses excluding room and board for *one term* were listed as less than $300 by almost 60 percent of his respondents and over that figure by the rest, with almost 10 percent listing expenses over $1,000.

Source of Income

Income to meet these expenses has also been looked at. Hunter found approximately one-half of his students reporting adequate incomes to meet both their academic and living expenses. For all students the median income was in the neighborhood of $4,000 and one-fourth of them received $6,000 or more annually. One-half of the students, both male and female, attended school on less than $3,000. As could be expected, married men needed more money: more than one-half of them had incomes of $6,000 or more annually.

Creager, asking graduate students to evaluate the adequacy of their finances to their needs, found the following results:

Finances	Percent
Very adequate	18.0
Adequate	54.4
Inadequate	22.3
Very Inadequate	5.3

Nine percent of the students reported incomes of under $2,500 annually; roughly one-quarter reported incomes between $2,500

and $4,999; and a surprising number reported incomes over $8,000. Almost 44 percent reported incomes this high, and over 22 percent reported incomes above $12,000. However, the latter figure is considerably boosted by women: almost one-third of them report family incomes over $12,000, and one has to suspect that working husbands provide this income.

The sources of this income vary. Davis (1962) found that before the NDEA loan programs, graduate students did not like to borrow and almost invariably worked:

> Graduate students tend to support themselves. Their university situation may make it possible for them to support themselves with an assistantship. . .; their spouse may add enough additional income to offset an increased budget of a family; and parents help when they can. . .; but by and large the graduate student. . .has no access to financial resources which give him enough margin to retire from the labor force and enjoy the cerebral delights of the ivory tower.

Davis found that students who worked full-time or expected to do so were characterized by "high-paying professional and managerial occupations, heavy family responsibilities, striking retardation in academic progress, and concentration in the smaller private schools." He surmised that full-time workers were comprised of three separate groups: students forced to work by family responsibilities; poorer students unable to afford full-time study; and workers seeking to brush up or increase their chances of promotion.

Davis characterized stipends of one form or another as the most important source of income for American graduate students—74 percent of the students received some form of stipend income; however, the stipends were not distributed equally:

> Financial need plays little or no role in this distribution, and although academic ability is related to stipend holding, students of distinctly lesser ability are quite likely to have stipends if they are in the "right" academic niche. In particular, students in public institutions, those in natural sciences, and those in advanced stages of graduate study tend to have disproportionate probabilities [for stipend holding].

Wilson (1965) found that one particular form of stipend was the most important single source of support for advanced graduate students in southern universities: the teaching assistantship. This

source was followed closely by veterans benefits, research assistantships, and the earnings of the student's spouse. In science he found that research and teaching assistantships were important in both the beginning and advanced stages of graduate work. Not surprisingly, research assistantships were negligible for the humanities graduate student. Social science and humanities graduate students more often relied on personal savings, family support, and employment not related to the graduate program than did science students. Outright fellowships were fifth-ranked in importance during advanced graduate study and were more frequently mentioned by humanities students, although the average value of fellowship awards was greater in the bio- and physical science fields than in the humanities or social sciences. The cumulative total of some of the important sources of income in this study—the teaching assistantship, research assistantship, and fellowships—provides some support for Davis' finding that stipends of various kinds were the most important source of income.

Hunter's data also support this view. Some 43 percent of the students in graduate school in the spring of 1965 held some form of stipend (scholarship, fellowship, teaching or research assistantship) according to Hunter.

> Men were more likely than women to hold stipends; a larger proportion of the younger than of the older [29 or older] held stipends; foreign students were more likely to hold stipends than were American citizens; and students without dependents (whether married or single) held proportionately more stipends than those with dependents.

Hunter also supports other conclusions drawn by Davis: stipend holding was more common in the larger graduate institutions and among science students. Moreover, although gifts and loans from relatives were a fairly important source of income for graduate students, loans from other sources (including the NDEA loan program) provided only 3 percent of the cost of graduate education. Hunter found that stipend holding was very common among students from families in which the father held an advanced degree and made $10,000 to $20,000 per year; indicating that need or parental contributions are not considerations in awarding stipend help. The value of the stipends ranged from below $500 to over $4,500, with one-half of them between $1,500 and $3,500 annually. Hunter also found that employment was a significant source of income, particularly for male part-time students.

Creager also questioned his students as to the sources of income for them during the year. Multiple responses indicated various sources for each student, the most common items being: teaching and research assistantships (41.8 percent); spouse's job (31.2 percent); nonacademic job (29.4 percent); fellowship (26.5 percent); savings (21.7 percent); and family aid (17.2 percent). He also asked them to list the *primary source* for both the current year and since entering graduate school with the following totals:

Primary Sources	Current Year (%)	Since Entry (%)
Fellowship	19.4	22.2
TA or RA	28.8	30.6
Nonacademic Job	17.0	15.3
Spouse's Job	18.2	14.3
Savings	2.2	2.7
Investments	0.8	0.7
Family Aid	3.9	5.3
Personal Loan	0.3	0.4
Government or Institutional Loan	2.6	2.6
Other	6.8	6.0

Again, in Creager's data, divisional differences stand out. The students in mathematics and the physical sciences appear much more satisfied with the adequacy of their finances than those in the arts and humanities. In addition, students in the bio- and physical sciences are more likely to list fellowships, and teaching and research assistantships as not only sources of income but primary sources of income. Students in the arts and humanities appear, from Creager's data, to rely more on nonacademic jobs, the spouses job, and family aid than students in the sciences, and in fact list the spouse's job as the primary income source currently and since entering graduate school. Social science students are more satisfied with their finances than either the bioscience or arts and humanities students, but less satisfied than the mathematics and physical science students.

The teaching assistantship, such an important source of income for many graduate students, has recently been examined by Heim and Bogard (1969). They concluded that the teaching assistant at a private university would receive approximately $2,650 for a "half-time" teaching load or the equivalent of $5,300 for a full-time load. With a tuition remission of some $1,400, the real salary would be in the range of $6,700 annually. In view of the AAUP average salary figure for all full-time *instructors* at all institutions—$8,010, or, including benefits, $8,770—the authors conclude that "while remuneration rates for graduate instructors in private universities are perhaps not as low as has sometimes been suggested, they are below the average rate of pay normally received by full-time colleagues." A possible justification for this differential, they note, lies in the difficulty of equating half-time salaries to full-time teaching positions, and the greater experience and/or training of the full-time instructor might reasonably be expected to account for $300 to $600 of the difference.

The data presented by these researchers, therefore, indicate that the financial picture for graduate students is not nearly as bad as many would have us believe. Eighty-four percent of Davis' student sample (1962) believed they had sufficient income to cover their expenses and 53 percent of them thought they had enough to cover expenses and a surplus for emergencies. Creager's figures are not so encouraging: some 27 percent indicated their income was inadequate or very inadequate. It may be that the different temper of students in the fifties and sixties explains this increase in dissatisfaction during a period when it is generally agreed that student support increased. Students in the fifties may have accepted lower support more meekly; the general militance of the sixties may have added more resentment.

The working wife appeared to be fairly well satisfied according to Davis. The spouses of both men and women had good jobs—the working men somewhat better than the working women—and no evidence appeared "that the working wives are rebellious about their lot." Davis felt they were a highly important and "somewhat unappreciated" economic resource for the male graduate student.

But to note these general satisfactions is not to deny problems. Davis found financial worry a problem in approximately one-third of his respondents. Those in debt, as could be expected, tended to worry more. However, Davis concluded that debtors were characterized by unexpected problems or inability to manage their resources. Students with savings did not appear to have

access to more funds than students in debt. He found that over half of his students worked part-time and that part-time work intensified worry. Based on this, Davis concluded that the removal of the necessity for part-time work would drop the percentage of worried students to less than one-quarter. He attributed the high worry levels of part-time workers and assistants to the fact that the need to work caused them to worry more than those who did not need to work, yet their income did not equal that of full-time workers. He concluded that financial worries were about as important as academic worries in producing low morale among graduate students, but that since morale was also affected by academic performance and other unidentified factors, the elimination of financial worries would not change overall morale appreciably.

Unions

Proponents of improving the situation of graduate students charge that the combination of academic harassment and financial problems force students to form unions for self-protection. Indeed, unions and general activism among graduate students have been receiving increasing attention from interested observers of graduate schools. Brown (1970) has completed the most thorough study in this area. In part, he maintains that graduate student activism in the form of radical caucuses or disrupting professional conventions is an outgrowth of student dissatisfaction with the content of various disciplines and their relation to social problems. In 1968 he sampled 20 percent of all graduate students in five departments at Berkeley. He attempted to place them as union or non-union members, and as either "Scholars" (identifying themselves with the predominant orientation of their departments) or as "Students" (identifying themselves as learners rather than as professionals). He found that Students frequently rejected the activities required for professional success in their disciplines: twice as many Students as Scholars expected to be college teachers as opposed to researchers; and only half as many Students as Scholars read the journals in their fields regularly.

Membership in a union was more likely to be associated with Student than with Scholar identification, even in the dissertation stage of study:

> Yet this group of respondents, who have successfully completed the major hurdles of a doctoral program, is in a better position than those in earlier stages to see themselves as full-fledged members of the academy. We can reasonably suggest that these Ph.D. candidates deliberately reject identification with professionals. . . .

One of the professional norms rejected by "Student-Union members" was the notion that the University should be neutral in social and political matters. Almost 90 percent of them rejected this idea, and they were followed closely by "Scholar-Union members." Brown also concluded that being a Student or a Union member was associated with disparagement of the Ph.D. and registering dissatisfaction with the "standards by which most graduate students are judged and most departments are administered."

In addition, 75 percent of the Student-Union members agreed that some of the best students dropped out because they did not want to "play the game."

> This question is an indication of the cynicism with which many graduate students view their degree programs. Surprisingly 41 percent of the Scholars who have never been members of the Union agreed with the statement. . . . Such cynicism suggests a considerable degree of subjective alienation of many graduate students from the work they are doing.

With regard to faculty, one-half of the Union members agreed that junior faculty members rather than senior men had more important things to say to students. A third of those who had never been in the Union also agreed about this item (Student/Scholar orientation had little to do with the responses).

Finally, Brown assessed the student's confidence in his own ability. Scholars, he found, were substantially more confident of their ability than Students. However, Students who were Union members also had high levels of confidence in their ability to conduct research.

> Clearly, for Union-Students one cannot argue that they reject Scholar status because of professional insecurity. Rather they see their student status as having intellectual and political meaning for their roles in the university and the professions. And similarly the argument against unions occasionally advanced in academia, that their members feel the need to bargain collectively because they are insecure professionally, is disputed by the data.

It is interesting that although the Student-Union members most emphatically demonstrate rejection of professional norms, they "are not alone. They are joined in these attitudes. . .by a third of the most conservative group, the non-Union Scholars."

Creager, found similar dichotomies in the graduate student population. When asked if he thought of himself mainly as a scholar or scientist rather than a student, 8.7 percent strongly agreed, 29.0 percent agreed, 42.7 percent disagreed, and 19.5 percent strongly disagreed. A slight majority of those graduate students on campuses that experienced disruptions in the year before the survey approved at least the aims if not the methods of the demonstrators. Over 60 percent disagreed with statements that faculty unions or teaching assistants' unions had a divisive effect on campus.

Brown felt that supporting strikes, unions, or even sympathizing with them could be taken as a rejection of professional values, since much of graduate education consists of an "immersion" or "steeping" process, of "absorbing the perspective, the knowledge, the values, the language, the attitudes. . .of their respective fields." Joining an organization which cuts across disciplines, devoted to nonprofessional issues "represents an identification with students' interests apart from the discipline, and this identification conflicts with the structural tendencies of graduate education."

6 Summary and Conclusions

Summary

The extensive research reports cited in this paper show that much critical attention has been centered on the role graduate students feel compelled to play to succeed in their graduate training. There is general agreement among commentators that graduate students are increasingly concentrated in prestigious universities and that most graduate students receive their undergraduate training at universities rather than colleges. Science students appear to be more satisfied with their programs than non-science students. There is also agreement on the multiplicity of economic backgrounds represented by all graduate students. To summarize:

The students position in relation to society—No research results deal with the contention that refocusing between the role demanded in society and the role of the student is a problem. However, enough experienced observers indicate concern over this problem that some efforts should be made to lessen the submissive aspects of graduate student status. Specifically, this means as far as *faculty* are concerned that they begin to regard students more as junior colleagues than students or hired help. As far as the *students relationship to other students* is concerned, experienced graduate students apparently assist new students in orienting them to graduate school life; however, in directly competitive situations, some students apparently are threatened, and more emphasis should be placed on graduate students as developing scholars on an individual basis rather than straining relationships between students.

Special groups (assistants, part-time students, and women)—These groups have unique problems that are essentially ignored. Many graduate departments offer virtually no training for teaching assistants, and this not only hinders the development of future teachers, but also blunts the effectiveness of undergraduate instruction. Graduate programs are typically arranged for full-time students. More thought should be given to arranging better academic counseling and scheduling so that the many part-time students in graduate school will lose minimal time. Findings indicate that some faculty members and male students deride female graduate students and their aspirations, and that even those males who do not may subtly suspect the intentions or commitment of women in graduate programs. Universities should be the last place in which any broad prejudice of this nature can be found.

Students are disturbed by many of the *components of graduate education*. *Languages* appear to lead the list: students are infuriated by language examination requirements after which the use of the language is not required. Current non-use of the language in student research indicates that language requirements should be dropped by departments. If examination requirements remain, the validity of the requirement should be proven by requiring the use of the languages in seminar papers and the dissertation. Probably one well-known language should replace the standard requirement of two languages—usually badly known. Unfortunately most of the literature appears to indicate that problems with the language requirements are solved when university-wide requirements have been dropped in favor of departmental discretion. That is really no solution.

The *dissertation and research phases* of doctoral study, although generally well accepted by recent recipients of the Ph.D. and regarded as a profitable experience, are inherently problematic. Maximum guidance for the student in the choice of his topic and the design of his research should be afforded by dissertation advisers. At the same time, the student's right to choose his own topic and to conduct his own research in his own fashion should not be threatened. Some students report problems at both ends of the spectrum: some are left with no help on their topic, and some are virtually required to pursue an assigned topic in a specified manner. More interest should be shown also in allowing graduate students to develop research projects in line with interests in the relevancy of the discipline to the outside world. The fact that

students indicate little confidence in their ability to conduct independent research leads one to the conclusion that advisors should not assume the student's mastery of a discipline's research methodology.

General requirements are a source of complaint also. It can be difficult to specify breadth requirements for all graduate students and perhaps should not be attempted. Moreover, it can lead to wasteful replication of the knowledge of some students. In disciplines attempting to ensure that all students attain the same general background, more attention should be placed on increasing seminar and independent reading programs. The comprehensive examination should serve to test the student's mastery. Much more orientation should be given to students about to take the comprehensive examination—particularly in the oral section if it is required. There is no doubt in the research findings that the comprehensive examination produces needless anxiety in students.

Without question *doctoral study* is *excessively long*. While overstructuring graduate programs or requiring virtually identical studies of all students—as is true in professional schools—would destroy doctoral education as we know it in the United States, the majority of students and many faculty members believe that doctoral programs could be tightened in order to reduce the time required. Students should be advised of time requirements upon entry, and counseling, assistance, and adequate financial support should be available to them. The high percentage of faculty and students agreeing that graduate schools lose some of their best students because they "refuse to play the game" is partially a condemnation of the hurdles placed in students' paths, and partially a condemnation of the time requirements.

Financially, although there are students in dire straits, as a group, graduate students are not nearly as destitute as many imagine. However, aid should be more equally distributed among the disciplines and much more attention should be given to financial need as a factor in awards than is now the case.

Conclusions

Even though everyone has his own favorite solution to the problems of graduate study—ranging from improved writing competency, to the abolition or modification of certain requirements,

to better guidance for graduate students—the chances of accomplishing the kinds of changes that graduate students feel could be made without diluting quality are not encouraging. Numerous commentators make the point that any profession that certifies its own successors, as is the case with college faculty, will hardly allow much deviation from the program required of the leaders in the profession.

Many also point to the fact that toward the end of the sixties, the economic security of faculty had become a dominant concern. Fear of a glut of Ph.D.'s has great relevance for graduate students. As the academic marketplace tightens, if Breneman's economic theory of Ph.D. production is correct, we can expect to see fewer doctoral recipients. Even now, at the recruitment stage, some prestigious departments have announced plans to reduce entering enrollments, and national fellowship programs have been seriously curtailed. If this does not satisfactorily limit degree production, more difficulties and obstacles in obtaining the degree might be anticipated.

On the other hand, if prospective graduate students hesitate to enroll due to the pessimistic forecasts for satisfactory Ph.D. employment, or due to decreases in research and fellowship support, it is possible that to ensure adequate enrollments, programs will be altered to make them more attractive.

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